Textile Industries

DECEMBER, 1949

formerly COTTON Textile Industries

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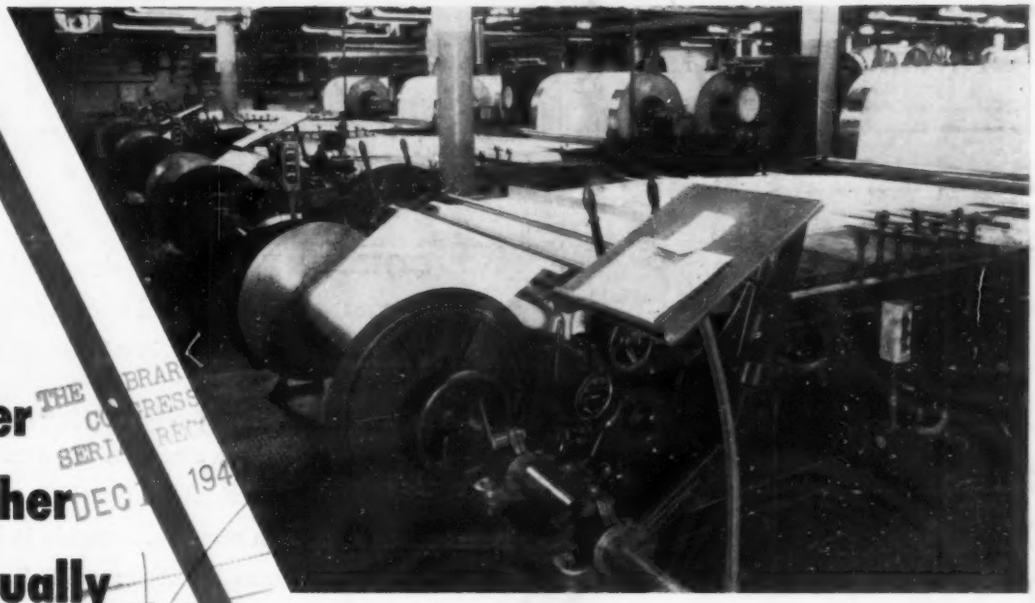
A battery of Cocker 9-Cylinder Slashers. Courtesy Marion Manufacturing Company, Marion, N. C.



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The Cocker High Speed 9-Cylinder Slasher Equally Efficient on

Cotton—Rayon—Spuns Acetates and Nylon

Finger Tip Tension Control

Speed changes while in operation

Patented Friction Control

and numerous other valuable features

Versatility that pays off

When the Marion Manufacturing Company bought these four High Speed Cocker 9-Cylinder Slashers to replace their old large-cylinder machines, they contemplated the possibility of running both cotton and synthetics and wanted slashers which would run these fibres with equal efficiency. The Cocker High Speed Slashers filled the bill perfectly.

For flexibility to meet changing conditions, install this versatile Cocker High Speed 9-Cylinder Slasher in your mill. Write or wire for full information.

Cocker Machine and Foundry Co., Gastonia, N. C.

WORLD'S LARGEST DESIGNERS AND BUILDERS OF COMPLETE WARP PREPARATORY EQUIPMENT

For Better Heat Resistance

CONCENTAL

A Versatile, Highly Concentrated Softener

CONCENTAL . . . there's no "faking" about its better heat resistance. Concental treated fabrics, when subjected to 350° F for 30 seconds in a Suter machine, do not *scorch!*

CONCENTAL . . . for all types of cottons and rayons . . . compatible with starches, gums and resinous materials . . . completely soluble in water . . . does not discolor nor develop odor in storage . . . stable in hot or cold solutions and in presence of acetic acid. Small quantities give desired results.

CONCENTAL CONCENTRATION (only 16% moisture) cuts your shipping costs!

Technical Data Sheet on Request

ARNOLD, HOFFMAN & CO. INCORPORATED

PROVIDENCE, R. I.

Established 1815 • Plants at Dighton, Mass., Charlotte, N. C. and Cincinnati, O.

NEW YORK • PHILADELPHIA • CHARLOTTE • CINCINNATI

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Volume 113 Number 12

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A TOP-QUALITY BOBBIN—

For Every Weave

There are four qualities a bobbin must have to do the job it is supposed to do:

1. Fine Workmanship.
2. A Finish that lasts.
3. Straightness.
4. Uniformity.

Look at your bobbins. If they answer these four requisites, you will find the name DRAPER stamped on the butt. Rigid inspection assures perfect bobbins.

Production at the recently modernized Draper bobbin plant in Beebe River, N. H., has increased to a point where deliveries can be handled adequately. Let us talk over your bobbin delivery problem.

Check your mill records for Filling Bobbin costs. A fine selection of wood plus Draper "know-how" mean top-quality bobbins. You cannot afford to sacrifice bobbin quality.

DRAPER CORPORATION

Atlanta Georgia — Hopedale Massachusetts — Spartanburg S C

costs come down, too, when you use these famous spindle lubricants

Texaco Spindura Oils are made especially for spindle lubrication. They are highly resistant to oxidation, thickening and fogging, won't form gummy deposits. This means less vibration, hunting and lagging . . . fewer ends down . . . cleaner, more uniformly twisted yarn.

Production increases, too, because *Texaco Spindura Oils* permit full-speed operation with heavy packages and without loss of quality. There is no power-wasting "drag."

You can get *Texaco Spindura Oils* in any needed viscosity. They meet all spindle manufacturing requirements for spinning, throwing, spooling and twisting machines.

Let a Texaco Lubrication Engineer help you reduce costs and improve the performance of all your machinery. Just call the nearest of the more than 2300 Texaco Wholesale Distributing Plants in the 48 States, or write The Texas Company, 135 East 42nd Street, New York 17, N. Y.

TEXACO

TEXACO Lubricants

FOR THE TEXTILE INDUSTRY

TEXACO STAR THEATRE presents MILTON BERLE on television every Tuesday night. METROPOLITAN OPERA broadcasts every Saturday afternoon

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Textile Industries

December, 1949

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The SKF SUA unit pillow block

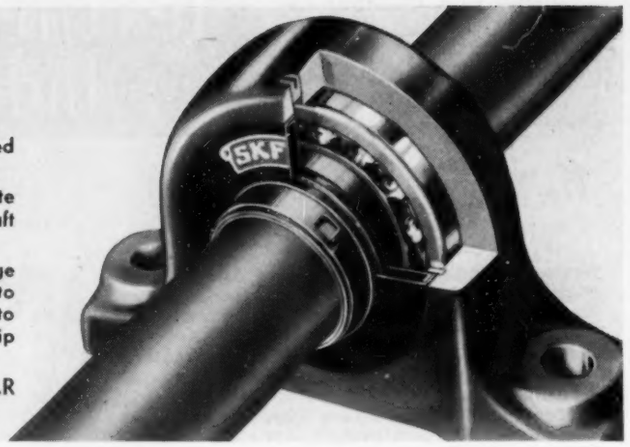
its DESCRIPTION

To maintain a *tight fit* between bearing and shaft, you need an SKF SUA unit pillow block.

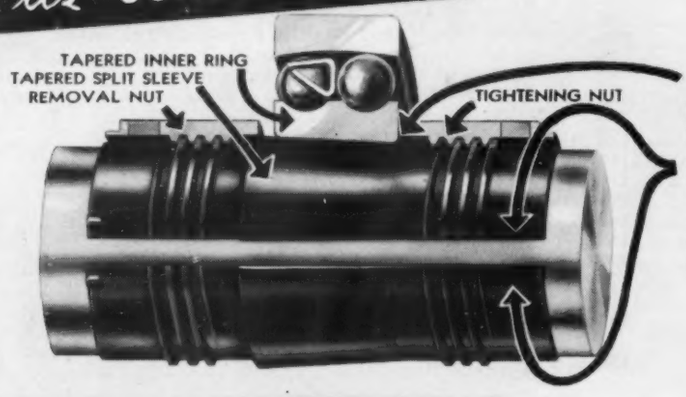
It's completely assembled, lubricated and ready for immediate use. Available in "free" and "held" types . . . and in shaft sizes from 1 7/16" to 2 7/16".

Its SKF-exclusive Align-O-Seals prevent lubricant leakage and dirt intrusion. No exposed bearing . . . no lock screws to raise troublesome burrs on the shaft . . . for the nut is locked to the sleeve. Even though the shaft vibrates, the concentric grip will not loosen.

Designated as type SUA with ball bearings—and type SUAR with spherical roller bearings.



its CONSTRUCTION



TIGHT FIT results when the tightening nut pushes the tapered inner ring over the tapered split sleeve.

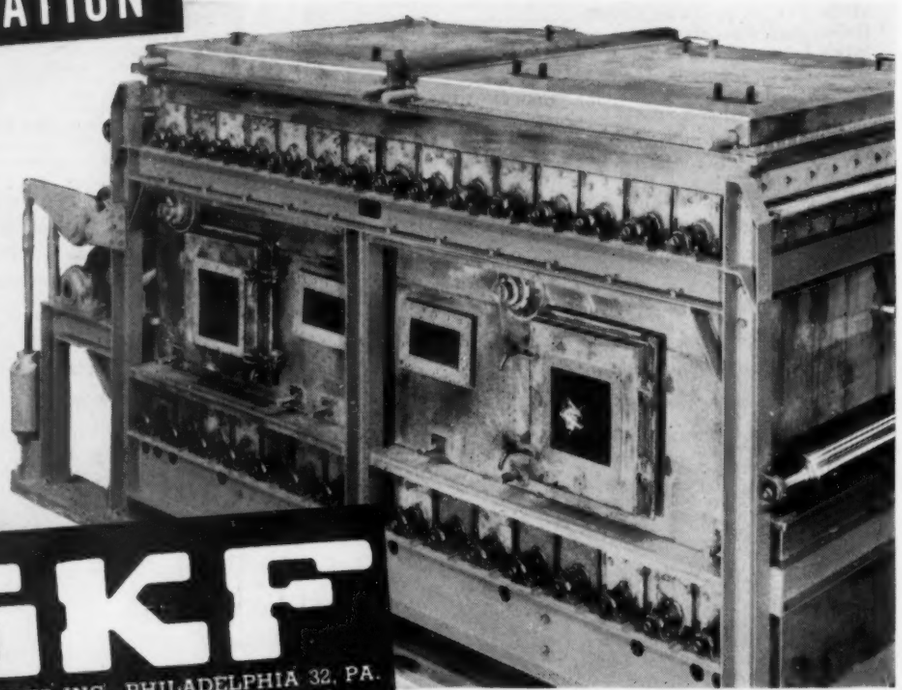
CONCENTRIC GRIP is firm and positive—as the split sleeve contracts and wraps around the shaft. Removal is accomplished by reversing the process—with tightening nut loosened, removal nut pushes inner ring off the sleeve.

its APPLICATION

THE GREENVILLE STEEL AND FOUNDRY COMPANY of Greenville, S. C., specified SKF SUA units and built a "tight fit between bearings and shafts" into this DuPont Steamer for piece goods drying.

64 SKF SUA 107 unit pillow blocks help maintain long-range dependability on this unit which operates at 150 yards per minute maximum. Our engineers can show you why the SKF SUA unit pillow block belongs in your specifications. Write today.

6600



SKF
INDUSTRIES INC., PHILADELPHIA 32, PA.

Rayon Reports

Heavier-Weight Rayons Now Appearing in Outerwear Fabrics

Rayon is appearing this fall in suits and coats for men, women, and boys, in new fabrics which are being closely watched throughout the textile industry. Price, wearability and style are strong arguments in its favor.

The rayon industry has seen this development coming for some time. Each improvement in rayon staple, and there have been many, has brought rayon closer to the goal. Higher tensile strengths were achieved and various degrees of luster and a wide variety of filament sizes and lengths. Recently, rayon staple has been given a permanent crimp. Concurrently, there have been important advances both in yarn and fabric construction and finishing, producing such essential properties as wrinkle resistance and shrinkage control. These developments bring with them unlimited possibilities for creative styling.

They make it possible for rayon to offer not only quality at low cost, but in addition to fulfill the demand for lighter-weight, clear finished fabrics – heretofore obtainable only with costly fine apparel wools.

There are sound reasons for expecting that rayon or rayon-and-wool year-round suitings will repeat the pattern established by the rayon summer suit, which in three seasons has advanced to a position of parity with the traditional tropical worsted.

Whether or not the heavier rayons adhere to the same time table, it seems safe to predict that rayon will be an increasing factor in the men's clothing industry.

The newest advertisement in Avisco's continuing campaign to build consumer acceptance for rayon in men's year-round suitings.

RAYON 20 YEARS AGO

NEW YORK, December, 1929—Women's rayon knitted pajamas are being featured by New York stores as a leading Christmas item.

PARIS, December, 1929—Rayon upholstery was seen on many cars at the Paris Automobile Salon. One especially made for the Sultan of Morocco was upholstered in red.

NEW YORK, December, 1929—Rayon alpaca is now being used to cover gift boxes. Cigarette manufacturers are particularly interested.

MAKE USE OF *Avisco*® 4-PLY SERVICE

To encourage continued improvement in rayon fabrics, American Viscose Corporation conducts research and offers technical service in these fields:

1 FIBER RESEARCH
2 FABRIC DESIGN
3 FABRIC PRODUCTION
4 FABRIC FINISHING

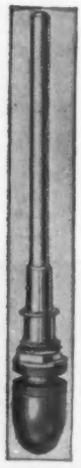
AMERICAN VISCOSE CORPORATION

America's largest producer of rayon

Sales Offices: 350 Fifth Avenue, New York 1, N. Y.; Charlotte, N. C.; Cleveland, Ohio; Philadelphia, Pa.; Providence, R. I.

"We must start to SACO-LOWELLize . . . NOW!"

"YES, we must lose no time in taking advantage of the possibilities now available to us."



New Era SPINDLE

Here are 3 SACO-LOWELL units

which should be an integral part of your SACO-LOWELL-izing program. They can give you **operating advantages** as well as

BETTER QUALITY
INCREASED PRODUCTION
REDUCTION IN WASTE
LOWER COSTS

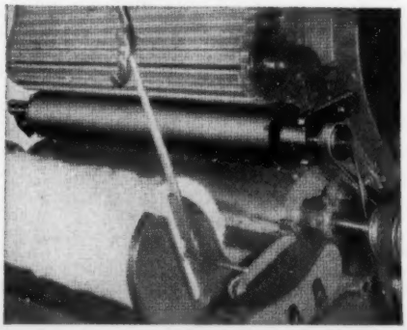
Reports from many mills concerning these units show such actual results — these statements are not generalities.

You need every advantage enjoyed by your competitors to achieve production and economy. A Saco-Lowell engineer can help you to accomplish this.

S-L-T TOP ROLL NEEDLE BEARING
FOR ROVING and SPINNING

★ ★ ★

Continous
CARD STRIPPER



LITERATURE is available on request.
Write to our nearest Sales Office.

SACO-LOWELL

60 BATTERYMARCH STREET, BOSTON 10, MASS.

Shops at BIDDEFORD, MAINE *and* SANFORD, N. C.

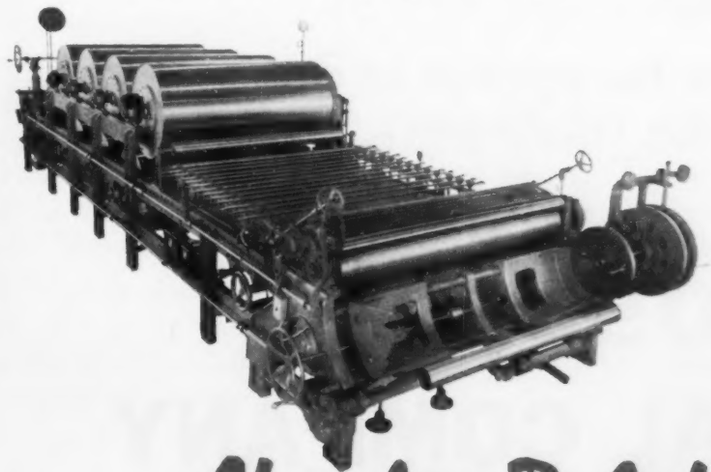
SALES OFFICES: CHARLOTTE • GREENVILLE • ATLANTA

SERVICE at 200 miles per hour

Recently a Johnson Sizer at a mill located in the deep South, after many years of continuous operation, needed a new part.

The sizing machine was stopped for only four hours, the time it took Mr. William Johnson, General Manager of Charles B. Johnson, to reach the mill in his plane and deliver the new part.

Johnson's fast service policy is depended upon by leading mills in this and thirty foreign countries.



Charles B. Johnson

PATERSON, NEW JERSEY

We Take Pleasure

in announcing the appointment of Mr. Laurie E. Whittelsey, who is well known to the textile trade, as sales representative for the entire Southeast, to handle our Acetic Acid in all concentrations shipped in tank cars and barrels; also Methyl Alcohol.

We will appreciate the privilege of discussing and quoting on your requirements.

*P. O. Box 793, Macon, Ga.

CROSSETT CHEMICAL COMPANY

CROSSETT, ARKANSAS

GOODYEAR INDUSTRIAL RUBBER PRODUCTS
G-Specified TEXAIR HOSE FOR COTTON MILL CLEANUP SERVICE
A Smooth, tough, abrasion-and-oil-resistant cover
B Reinforcing braided ply of cabled cords
C Non-porous, oil-resistant synthetic rubber tube.
FOR HOSE, FLAT BELTS, V-BELTS, MOLDED GOODS, PACKING, TANK LINING built to the world's highest standard of quality, phone your nearest Goodyear Industrial Rubber Products Distributor.

NOW TEXAIR HOSE is built with super-strong cabled cords

to give you longer service

DESIGNED to outlast any hose yet developed for cotton mill cleanup work — tested in one mill after another — proved the finest, most economical mill hose ever built — NOW TEXAIR Hose has been even further improved by the G.T.M.—Goodyear Technical Man.

TEXAIR is now built with a braided reinforcement of superstrong, cabled cords. That means a stronger hose, with even more resistance to snaking and towrope strains.

TEXAIR has a cover that's tough and rugged, built smooth so you can easily pull it across floors and around corners. And both the cover and the tube are oil-resistant — won't soften or weaken through contact with oil on machines or in the air line.

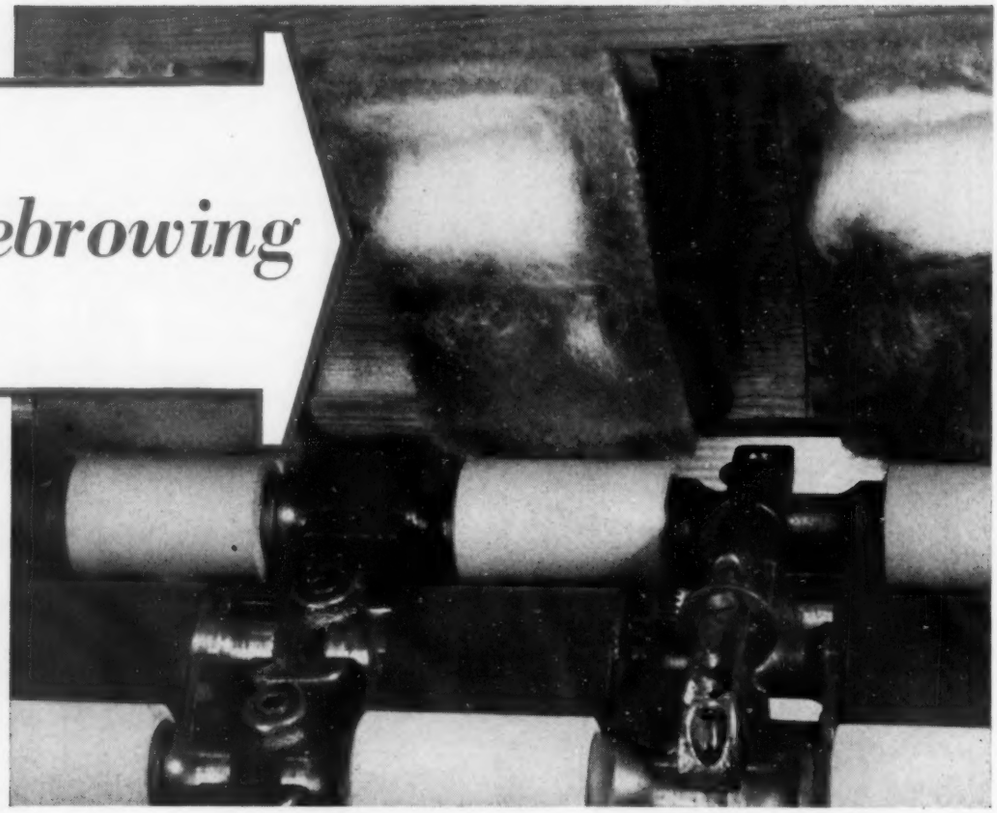
Best by any test for quality and economy, you can order TEXAIR Hose from the G.T.M. or your regular Goodyear Distributor. For further details, write Goodyear, Akron 16, Ohio.

Texair—T. M. The Goodyear Tire & Rubber Company

GOODYEAR

THE GREATEST NAME IN RUBBER

Less eyebrowing



Waste is packed tight by high-friction cork particles

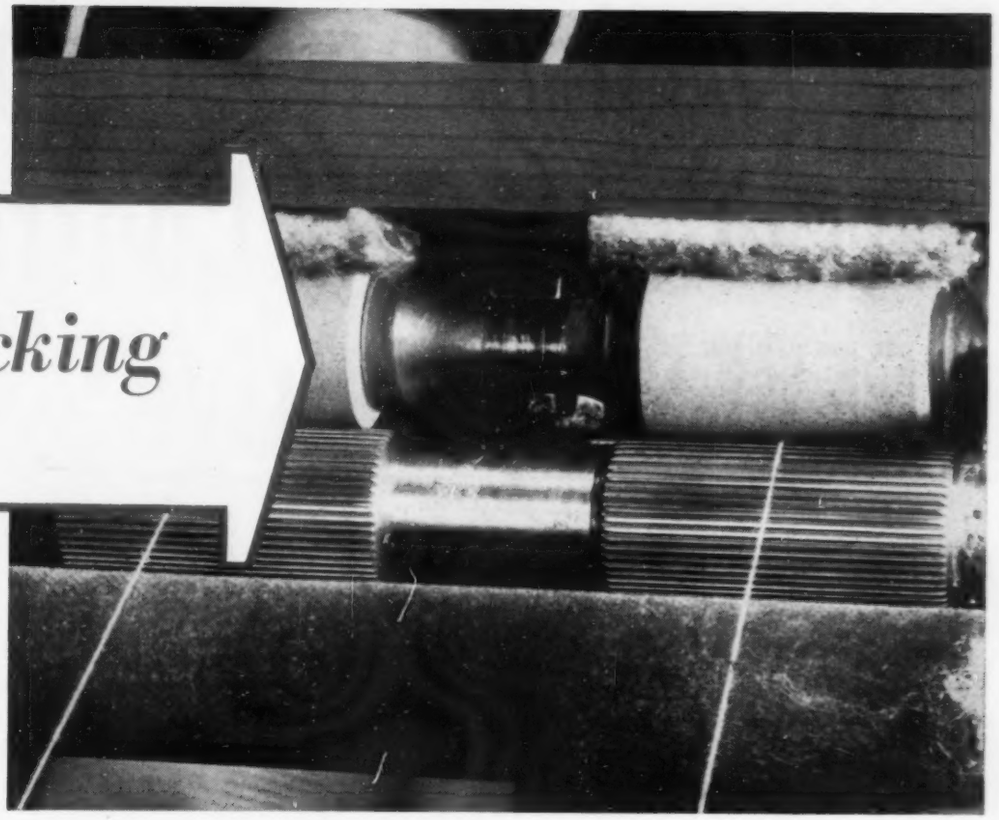
...when CORK is added

For maximum lap resistance—J-490 Accotex Cots

This plain synthetic covering is especially useful where synthetic fibers are run on cotton system equipment or wherever maximum lap resistance is required. After long initial service life, J-490 cots, like all Accotex Cots, can be rebuffed five or six times. For best results use J-490 with revolving clearers.

Whether you are spinning cotton, wool, or synthetic fibers, Armstrong can supply you with a cover especially formulated for the job. These covers are available for export.

ACCOTEX COTS
CORK COTS



Less slicking

High-friction cork particles resist slicking.

to ACCOTEX RUBBER

Adding cork to Accotex® rubber makes Armstrong's NC-727 Accotex the synthetic cot that reduces eyebrowing and resists slicking. In NC-727, thousands of cork particles dispersed throughout the rubber give added friction that tends to pack loose fibers back on the clearers. And these cork particles provide the type of surface that retards slicking.

This slick-resistant surface has excellent drafting qualities. It grips the yarn firmly and evenly and drafts a consistently strong, uniform yarn.

In addition, Accotex NC-727 Cots greatly reduce lapping. Like all Accotex formulations they contain electrolytes. Electrolytes eliminate the attraction between fiber and cot that is a cause of lapping.

Accotex Cots are nonsweating, too, even in humid weather. They are not affected by oils, water, dyes, changes in temperature and humidity, nor the solvents commonly used in the textile industry.

This combination of long-lasting rubber and smooth-drafting cork helps produce quality yarn at low cost. Your Armstrong representative will gladly arrange a test installation of NC-727 Accotex Cots in your own mill. Call him today. Or write Armstrong Cork Company, Textile Products Department, 3612 Arch Street, Lancaster, Pennsylvania. Available for export.

ARMSTRONG'S ACCOTEX COTS

New Hydraulic Automatic Variable Speed Control for REEVES Motodrive

"Hydraulic Control for the REEVES MOTODRIVE! Now *that is something!* It's just what we've been looking for!"

So say production men everywhere, who have known the accuracy, the versatility and the absolute dependability of the REEVES Vari-Speed Motodrive for years!

Now, with super-sensitive hydraulic automatic control, it is positively unbeatable for all types of installations *where space is at a premium, and operating speeds must be controlled automatically with extreme accuracy and dependability.*

This new control consists of a compact, independent hydraulic power plant and a rotary valve and piston, fully encased and mounted on Motodrive in lieu of the standard, speed-changing handwheel. A few ounces of pressure on the control lever actuates the control to produce changes in output speeds.

The same unit, without the hydraulic power plant, is designed to provide equally accurate and sensitive *pneumatic* control.

The new controls, similar in design to those offered for use with the REEVES Variable Speed Transmission, have been thoroughly tested in service. They are extremely sensitive in operation, soundly engineered, and trouble-proof. They operate instantaneously when speed changes are called for by any indicating mechanism, such as follower roll, float, moving part, etc.

Write today for further information about this important new REEVES development.

REEVES PULLEY COMPANY • COLUMBUS, INDIANA

"Sensitive as a cat's whisker"

Completely Automatic Variable Speed Unit and Controls —compact and accurate

ACCURATE • VARIABLE
Reeves Speed Control
GIVES THE RIGHT SPEED FOR EVERY JOB!

Send For New Bulletin T27—GN-4916

Contains complete description, with pictures, of this outstanding new REEVES development.

WHY USE 2 DE-SIZING AGENTS WHEN 1 WILL DO BOTH JOBS?

AMPROZYME

THE NEW DOUBLE-ACTION DE-SIZING AGENT CONVERTS BOTH STARCHES AND PROTEINS IMMEDIATELY AND IN ONE OPERATION

There is no need for two different de-sizing agents or for two different de-sizing operations when you use AMPROZYME. If the size is starch, its amylolytic enzymes go right to work. If a protein size is present, its proteolytic enzymes take up the attack. AMPROZYME digests either or both at the same time and in the same operation.

AMPROZYME, furnished in powder form, can be used at all normal dye box temperatures and in a wide pH range. Its rapid double-action insures quick and complete de-sizing of cottons, rayons and mixed goods, producing a good hand and fine finish for even dyeing without streaks, shading or blemishes.

When you use AMPROZYME you do more than effect economies in de-sizing operations. You reduce storage, handling and shipping costs as well, for you have one product that does *two* jobs. You're never out of the proper de-sizing agent with double-acting AMPROZYME.

Send the coupon today for full information on AMPROZYME and a sample for a test run. Why buy two products when one will do both jobs?

JACQUES WOLF & CO.
Chemicals PASSAIC, N. J.

Manufacturers of Monopole Oil, Superclear, Hydrosulfites, Oratol L-48, Lomar PW, and other chemical specialties

AMPROZYME AMPROZYME AMPROZYME AMPROZYME AMPROZYME

JACQUES WOLF & CO., Passaic, N. J. (TI 12-49)

☐ *I want to know more about AMPROZYME.*

☐ *I would like sample for a test run.*

NAME_____

TITLE_____

COMPANY_____

ADDRESS_____

CITY & STATE_____

"Cuts our cleaning costs more than $1200 annually"

"Cleans floor area size of city block in 6½ hours"

"Does 4-hour cleaning job in 30 minutes"

"Cleans 55,000 sq. ft. of floor in single day"

OTHERS SAVE ON LARGE-AREA SCRUBBING ... Why Not You?

Now especially, with the need for cutting costs, savings such as are possible with a *Finnell Scrubber-Vac* are well worth investigating.

With a *Finnell Scrubber-Vac,* all four of the floor-cleaning operations can be done mechanically! This combination machine applies the cleanser, scrubs, rinses if required, and picks up. With one or two operators, a *Finnell Scrubber-Vac* can do a cleaning job better in half the time it takes a crew of six to eight using separate equipment for the several operations.

The model illustrated below, for heavy duty requirements, has a cleaning capacity up to 8,750 sq. ft. per hour. *Finnell* makes several *Scrubber-Vac Machines,* all self-propelled, including a single disc model for use on the smoother type of floors. It cleans up to 10,000 sq. ft. per hour!

Have a talk with *the nearby Finnell man.* See what *you* would save with a *Finnell Scrubber-Vac.* Incidentally, it's good to know that when you choose *Finnell Equipment,* a *Finnell* man is readily available to help train your maintenance operators in its proper use. For consultation, demonstration, or literature, phone or write nearest *Finnell Branch* or Finnell System, Inc., 1312 East Street, Elkhart, Indiana. Branch Offices in all principal cities of the United States and Canada.

A *Finnell* SCRUBBER-VAC

Everything FINNELL for Floor Care

FINNELL SYSTEM, INC.

Pioneers and Specialists in

FLOOR-MAINTENANCE EQUIPMENT AND SUPPLIES

BRANCHES IN ALL PRINCIPAL CITIES

MADE OF U·S·S Stainless Steel

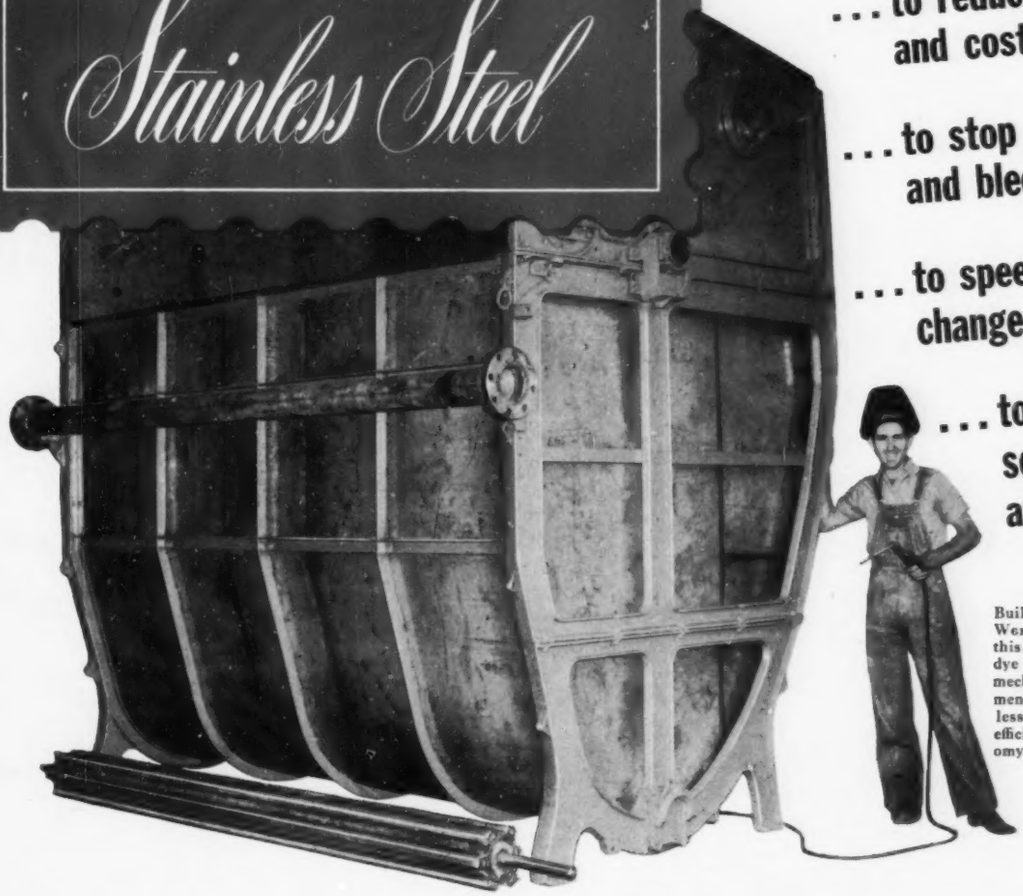
. . . to end rust and corrosion

. . . to reduce time and cost of cleaning

. . . to stop color-lag and bleeding

. . . to speed up change-overs

. . . to prevent soap stains and canker



Built by the Sims Metal Works of West Point, Ga., this combination wash and dye vat is typical of the mechanized textile equipment in which U·S·S Stainless is used to insure greater efficiency and greater economy of operation.

STAINLESS STEEL construction like this has become almost taken-for-granted in the new, advanced design equipment now being produced for textile mill service.

That's because Stainless Steel equipment has consistently paid off in better results, bigger production and lower maintenance costs. Stainless Steel does so much more, does it so much better, and lasts so much longer that it has proved by far the cheapest material that can be used.

We believe it significant that so much of this time-saving, cost-cutting equipment is being built with U·S·S Stainless Steel. The ability of this *perfected* Stainless to meet requirements that are new and often unusually severe, and to insure top performance in such applications, is due to two things: First, U·S·S Stainless is available in a variety of analyses that will meet almost any service condition. And, second, its uniformity in composition, in finish, and in fabricating qualities allows wide latitude in design and permits the use of the most advanced manufacturing techniques.

Our engineers are specialists in Stainless Steel. You will find their help invaluable in determining exactly what type of U·S·S Stainless will do the best, most efficient job. Write for their assistance, outlining your problem, to United States Steel Corporation Subsidiaries 2106 Carnegie Building, Pittsburgh 30, Pa.

AMERICAN STEEL & WIRE COMPANY, GENERAL OFFICES: CLEVELAND, OHIO · CARNEGIE-ILLINOIS STEEL CORPORATION, PITTSBURGH & CHICAGO

COLUMBIA STEEL COMPANY, SAN FRANCISCO NATIONAL TUBE COMPANY, PITTSBURGH · TENNESSEE COAL, IRON & RAILROAD COMPANY, BIRMINGHAM

UNITED STATES STEEL SUPPLY COMPANY, WAREHOUSE DISTRIBUTORS, COAST-TO-COAST · UNITED STATES STEEL EXPORT COMPANY, NEW YORK

USS

U·S·S STAINLESS STEEL

SHEETS · STRIP · PLATES · BARS · BILLETS · PIPE · TUBES · WIRE · SPECIAL SECTIONS

5-1681

UNITED STATES STEEL

Merry Xmas to our many friends and customers in the *Textile Industry.*

Thank You for the many orders in 1949 for the **Superior Cleaner,** and for your co-operation in the delivery and installation of these machines.

A happier 1950 is in store for those mills who have installed this cleaner for they will get cleaner cotton---(less motes, sand, leaf, metals, glass, rocks, seed, etc.)---for 1950 and years to come. And cleaner cotton means better carding, roving, drawing, better yarn and cloth.

Our Guarantee--

This machine must accomplish all we claim for it and prove entirely pleasing, or you can return it for full credit. Write today for complete data on this answer to your opening, cleaning and blending problems.

The* Centrif-Air Machine Co., *Inc.

ENGINEERS ***(Licensees)*** **MANUFACTURERS**

ATLANTA, GEORGIA

SANDOZ PRESENTS *The color achievement of the month*

Burnt Sienna ...BY VAREL

Wearers of this clever tweed by Varel Woolens can be sure of being in step with fashion's latest developments . . . just as the mill, by using Sandoz colors, is sure of benefiting from the latest developments in dyestuffs.

An example of Sandoz' developments aimed at more profitable dyeing are such exclusive Sandoz colors as:

METOMEGA CHROME BROWN 3GL Pat.
METOMEGA CHROME BROWN RLL Pat.

which are not only extremely fast to weather, perspiration, dry cleaning and pressing, but also highly efficient to handle. The wet finisher knows they will not bleed into white or other light colors in the fulling, or change shade when he carbonizes the pieces. Fabrics dyed with these mill-proven browns undergo no change of shade when given that "rough" mill treatment, decatizing.

Other colors in this well-known group which make life easier for the finisher are:

METOMEGA CHROME GREEN BLL Pat.
METOMEGA CHROME BORDEAUX 2BL
METOMEGA CHROME YELLOW ME
METOMEGA CHROME ORANGE ML

And for any chrome, acid or direct dyes . . . or auxiliary chemicals . . . for both natural and synthetic fibres . . . be guided by the successful "color achievements" you see in these Sandoz advertisements.

SANDOZ CHEMICAL WORKS, INC., 61 VAN DAM STREET, NEW YORK 13, N. Y.

Application laboratories and stocks at Boston, Philadelphia, Charlotte, Chicago, Los Angeles, Toronto • Other branches at Providence, Paterson and Montreal

SANDOZ *thinks ahead with textiles*

THIS IS NO. 78 OF A SERIES ON

GETTING THE MOST FROM TWISTING

Information about twisting designed to show improvements in twisting equipment and new ideas in the twisting operation

ATWOOD®

SPECIAL TOOLS AND GAUGES for Atwood Twisters

Spindle Leveling Gauge

This gauge (A) is used when leveling spindles or idlers on any of the Atwood twister frames.

With a choice of the bushings (B), the gauge will accommodate the various types of spindle blades. The bushings are slipped into the hole in the center of the gauge and are held there by a headless set screw.

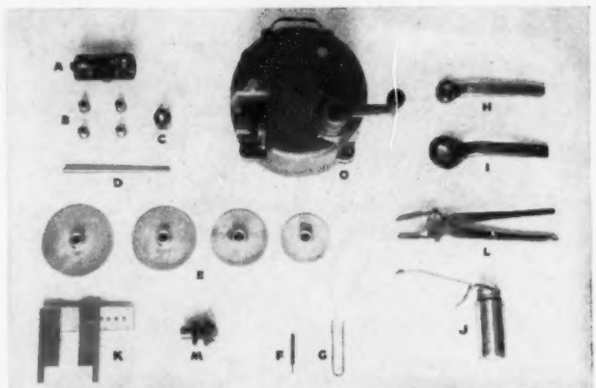
The two adapters (C and D) are used for leveling the idlers. The plug (C) is used when leveling ball bearing type idlers; it is seated in the oil well, and the leveling gauge with the proper bushing is placed over it. The leveling spindle (D) is used when leveling plain bearing idlers; it also is seated in the oil well, and the gauge with proper bushing is placed upon it. This is also used to determine whether or not the oil is at the correct level. With the leveling spindle seated in the oil well, the oil should be visible at the lip of the well.

Ring Gauge

The ring gauges (E) are used to center the rings on Atwood ring twisters. They are made in four different sizes — 3 1/2 in., 4 in., 4 1/2 in. and 5 in. — to accommodate the various size rings.

Bobbin Centering Pin Tool

This tool (F) is used when replacing older type centering pins on the Model 200 Redraw. The spanner wrench (G) is used to hold the cork cot; the two prongs fit the holes in the side of the cot. With the wrench holding the cot, the centering pin tool is inserted in the hole in the centering pin, and the pin can then be removed. The most recently designed pins can be removed with a screw driver.



Wrenches

The spindle step wrench (H) is a special wrench used on the Utility, Monarch and Model 100 Uptwisters. The spindle swing stand nut wrench (I) is a special wrench used only on the Model 10 Ring Twister and the Model 110 Uptwister.

Oil Can

The oil can (J) is used for oiling all Atwood twister frames. A hypodermic needle can be attached to the nozzle to facilitate oiling the feed rolls on the Model 10 Ring Twister.

Finger and Cork Roll Centering Gauge

This gauge (K) is used on the Utility, Model 100, Monarch and C & B twisters to adjust the fingers for 4 1/2 in., 5 in., 5 1/2 in., 6 in. and 6 1/2 in. space. The adjustment of the gauge is made by means of the movable arm. The fingers are then adjusted so that the milled grooves for the bobbin gudgeons contact both the arms. The cork roll is then centered between the cutouts on the lower portion of the arms.

Spring Compressor

This tool (L) is used to compress the spindle step spring when replacing the spindle step on older model equipment.

Spindle Rail Level (M)

This level is used on Utility, Monarch and C & B twisters. The level fits into the eye in the spindle rail and can be turned around in this eye to permit leveling both crosswise and lengthwise.

Syringe

The syringe (N) is used for draining oil from the spindle and idler stands.

Spring Winder

This tool (O) adjusts the ring rail balance.

Scale

The 5 lb. spring scale (P) is used to test the spindle swing spring tension.

See pages on Universal and Atwood in TEXTILE CATALOGS AND DAVISON'S

*Reg. U.S. Pat. Off.

23.9.3

Nov., 1949

WINDING AND TWISTING MACHINERY FOR NATURAL AND SYNTHETIC YARNS

UNIVERSAL® WINDING COMPANY

ATWOOD DIVISION

PROVIDENCE BOSTON PHILADELPHIA UTICA CHARLOTTE ATLANTA CHICAGO LOS ANGELES MONTREAL and HAMILTON

DRAINING & VENTING DRYING CYLINDERS

Now, in a packaged unit you can get a Sarco System that will eliminate five expensive and troublesome inefficiencies. Sarco provides:—

Fast heat up from cold	No air binding
Even drying—no cold spots	No water logging
Low steam consumption	No steam locking

If you are a steam man, the diagram below will show you how it works. If you are not, consider the following savings for your plant:

THE NEW SARCO SYSTEM

QUICK WARM UP

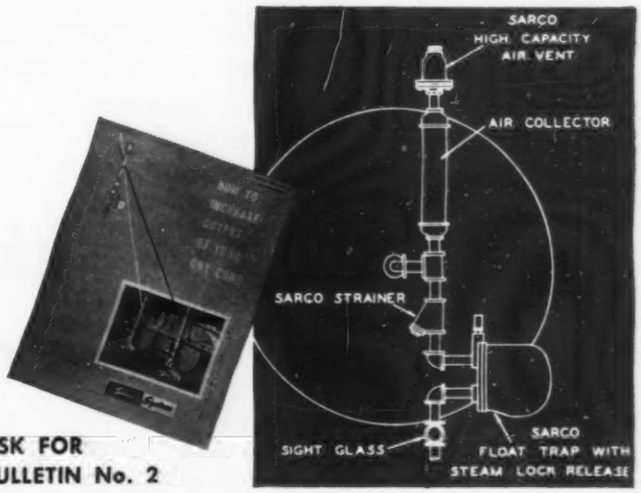
You can save 2½ hours on every warm up—frequently save 5 hours every 24.

MORE PRODUCTION

Once the machine is running right, it will continue the same way. No damp spots. No production hold ups.

LESS STEAM

A big item in costs is kept to a minimum. Also, perhaps Sarco can find ways for you to use the left-over condensate.



ASK FOR BULLETIN No. 2

TRIED AND PROVEN IN LEADING TEXTILE AND PAPER MILLS

266

SARCO SAVES STEAM

SARCO COMPANY, INC.
Represented in Principal Cities
Empire State Building, New York 1, N. Y.
SARCO CANADA, LTD., TORONTO 5, ONTARIO

IMPROVES PRODUCT QUALITY AND OUTPUT

Complete Blending, Opening, Cleaning and Picking Systems for Cotton Mills

Opening, Blending and Picking Systems for Synthetic Fibers

New, and Rebuilt, Single-Process Pickers

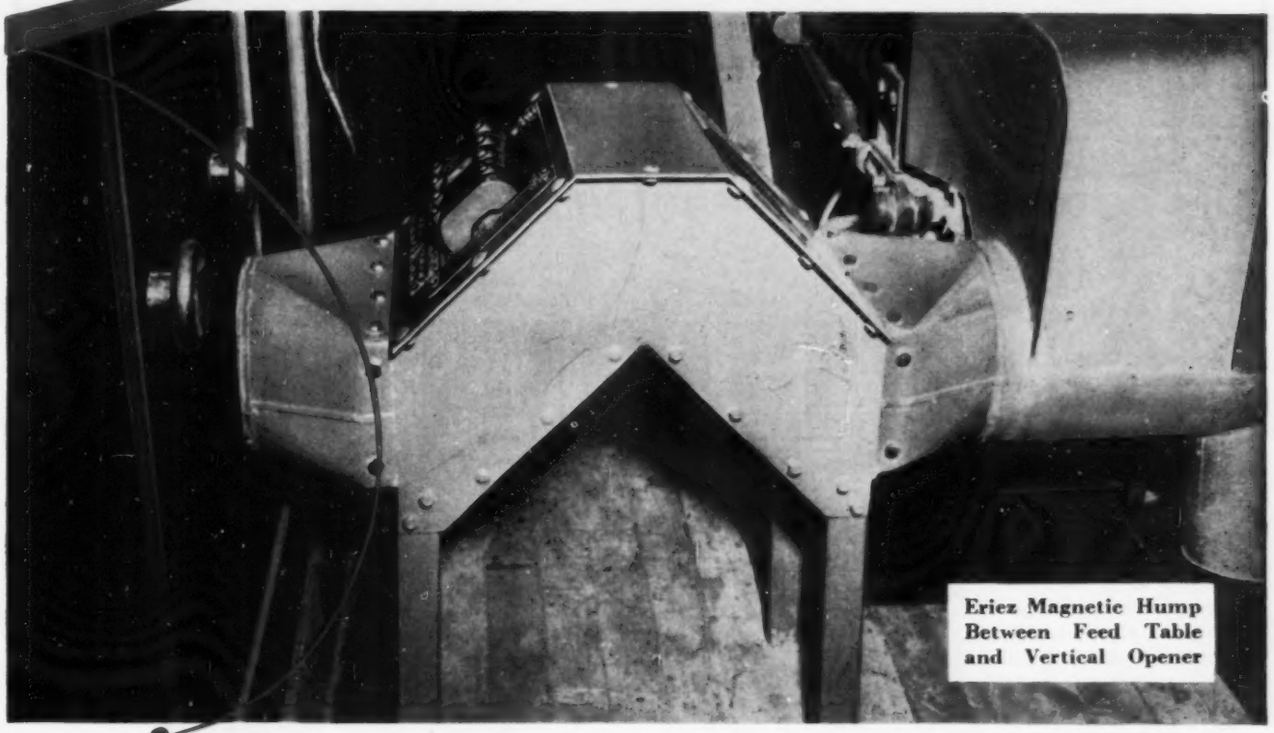
The Aldrich Synchronized Single Process Picking System has consistently produced more uniform card sliver than any other picking system.

Parts for Kitson Pickers Always in Stock for Immediate Delivery

AldricH MachinE

Greenwood WorkS South Carolina

"Over A YEAR'S OPERATION AT WOODSIDE WITHOUT AN OPENING ROOM FIRE."



Eriez Magnetic Hump Between Feed Table and Vertical Opener

2 Eriez MAGNETIC HUMPS RETURN 5 DOLLARS ANNUALLY FOR EVERY DOLLAR INVESTED!

FIRES, caused by tramp iron were common at Woodside Mills, Greenville, S. C. Then in January 1947 at a cost of approximately $500.00, two Eriez Non-Electric Permanent Magnetic Humps were placed in the opening room ahead of the vertical openers. By this simple action, fires were eliminated. Previous to installation, the mill averaged at least one fire per month and the estimated loss was $2,500.00 annually —on property alone. Check the cost sheet—in less than six months, the two Eriez humps paid for themselves. The Eriez magnetic equipment shown above was designed specifically to remove tramp iron and subsequently eliminate fires. It can be used ahead of any high speed opening machinery with excellent results. Woodside's experience is typical of hundreds of mills using this Factory Mutual approved magnetic equipment.

Remember Eriez Permanent Non-Electric Magnets give you these advantages . . . Superior cleaning ability . . . No operating or maintenance costs . uninterrupted protection. Magnetic strength will last indefinitely.

Write today for Textile Bulletin 104-A for complete details.

We are in Chemical Engineering Catalog

Pioneer of PERMANENT Magnetic Separation

Visit us at the Plant Maintenance Show, Cleveland, Ohio, Booth No. 443, January 16-17, 1950.

ERIEZ MANUFACTURING COMPANY

1501 East 12th St. • ERIE, PA.

NO MORE *TIPPY* WOOL

with

ANTHOMINE*

on the job!

IN ALL WOOL DYEING OPERATIONS *ANTHOMINE* INCREASES THE AFFINITY OF WOOL FIBRES FOR DYESTUFFS.

THIS RESULTS IN LEVEL SHADES WHEN DYEING STOCK, YARN OR PIECE GOODS.

TIPPY AND BLENDED WOOLS ARE DYED A SOLID SHADE BY ADDING *ANTHOMINE* TO THE DYE BATH.

Mills throughout the country use* ANTHOMINE *for:

- **Even dyeing**
- **Brighter, fuller shades**
- **Quicker, better exhaustion of dyebath**
- **Softer, more pleasing "hand"**
- **Reduced processing time**

Send for Technical Service Bulletin #203-100.2 for complete information, including how to use ANTHOMINE for Top and Yarn Dyeing, Pressure or Package Dyeing, Leveling Unevenly Dyed Yarn or Shady Pieces, Dyeing Metallized Colors, etc.

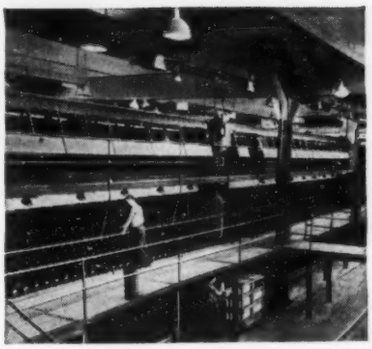
Arkansas Co. INC.

Manufacturers of Industrial Chemicals for Over 40 Years

NEWARK, NEW JERSEY

*Reg. U.S. Pat. Off.

It's Carrier for scientific air conditioning



In the chemical production of fibers, too, Carrier control of temperature and humidity is vital to large-scale production and uniform quality. Here in the world's first plant for continuous processing of viscose rayon at Paynesville, Ohio, the Industrial Rayon Corporation operates more than a mile of streamlined spinning machines like this.

Call it what you like—scientific air conditioning or air conditioning know-how—Carrier has what it takes to design and install the system which will reduce your costs the most.

Proof that Carrier know-how pays off is on record. Here are just two of many case histories from Carrier files:

1 **Before modernizing its outmoded air conditioning with a new Carrier Evaporative Cooling System, mill A's production was limited to 32,000 yards of cloth per loom. After Carrier modernization, loom efficiency increased 2 per cent—giving the mill 640 more yards of cloth per loom with exactly the same labor.**

2 **Before the addition of Carrier Refrigeration eliminated the sudden temperature changes in mill B, ends-down averaged 50 to 60 per 1000 spindle hours—afterward they were cut in half. Lower temperatures made labor more efficient. More efficient labor gave better attention to fewer ends-down.**

These are typical examples of the easily measurable results of scientific air conditioning. There are other results not so easy to measure, but which are very important—for instance, better choice of labor, less employee absenteeism and turnover.

Whether your problem involves a new installation or modernizing an old system, you can rely on Carrier know-how for a sound solution. Carrier Corporation, Syracuse, New York.

Carrier **AIR CONDITIONING • REFRIGERATION • INDUSTRIAL HEATING**

For office, factory, school—wherever critical seeing or long use of the eyes is the practice—provide softly diffused daylight through Frosted *Aklo* Glass. Influx of solar heat is reduced by *Aklo* Glass for more comfortable working conditions.

Lighting at its best...FILTERED DAYLIGHT

There's no substitute for properly diffused daylight. With Blue Ridge Frosted *Aklo** Glass in windows you provide daylight of pleasing quality that is easy on the eyes. Workers—in office or plant—enjoy an abundance of softly-diffused daylight without excessive solar heat.

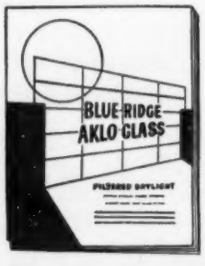
REDUCES GLARE. Frosted *Aklo* Glass is a blue-green diffusing filter between the sun or sky and the eyes of workers. *Aklo's* glare reduction makes seeing more comfortable—less tiring. Easier seeing means better workmanship—faster production—fewer accidents.

RETARDS SUN HEAT. *Aklo* Glass absorbs nearly all the infrared radiation of the sun and re-radiates much of it externally. Interiors stay cooler, providing more comfort and permitting lower air-conditioning costs.

Aklo Glass is manufactured by the Blue Ridge Glass Corporation of Kingsport, Tennessee, and sold through Libbey·Owens·Ford Glass distributors. To see for yourself how Frosted *Aklo* Glass reduces glare and sun heat, ask your distributor for a Radiometer demonstration.

Free Book on Reduction of Sun Glare and Heat.

Write to Blue Ridge Sales Division, Libbey·Owens·Ford Glass Company, 92129 Nicholas Building, Toledo 3, Ohio. ·®



BLUE RIDGE AKLO GLASS

Heat Absorbing • Glare Reducing • Figured and Wire Glass

*COLOR

For maximum production . . . top efficiency . . . lowest operating cost, give your machines the finest in lubricants—give them Tycol oils and greases.

Tycol lubricants are made to meet every lubrication need of industry—from roll neck greases for steel mills to spindle oils for textile plants.

Each Tycol lubricant is subjected to rigid tests during manufacture. This control assures the required lubrication characteristics—*COLOR, penetration, viscosity, to name a few—for maximum performance of that particular product. At every step from selection of crudes to blending of the finished product, Tycol lubricants provide maximum lubricating efficiency which means greater economy, longer life for every type of equipment.

Tide Water Associated will be glad to assist you in selecting the Tycol lubricant best suited to your specific need. Call or write your nearest office for further details.

TYCOL

INDUSTRIAL LUBRICANTS

Boston • Charlotte, N. C. • Pittsburgh • Philadelphia • Chicago Detroit • Tulsa • Cleveland San Francisco • Toronto, Canada

TIDE WATER ASSOCIATED OIL COMPANY

17 BATTERY PLACE - NEW YORK 4, N. Y.

***LEARN WHAT THIS PRODUCT CHARACTERISTIC MEANS TO YOU — READ "LUBRICANIA"**
This informative handbook, "Tide Water Associated Lubricania," gives clear, concise descriptions of the basic tests used to determine important properties of oils and greases. For your free copy, write to Tide Water Associated Oil Company, 17 Battery Place, New York 4, N. Y.

REFINERS AND MARKETERS OF VEEDOL — THE WORLD'S MOST FAMOUS MOTOR OIL

Dorian -designed pique housecoat featured in current Linit® Starch national magazine advertising in color promoting, "the CRISP LOOK of starched cottons."

the *Crisp Look* of starched cottons

Idea with a bright future for you!

Cotton people pick up very few wooden nickels—they're a "show me" breed. Significant—

For more and more they're lining up behind "the CRISP LOOK of starched cottons" as the sure-thing promotion. And the reasons are good . . .

During 1949 this theme has demonstrated that crispness . . . *starched* crispness . . . is what women want in cottons. Proof?—

. . . Millions of dollars worth of magazine and newspaper editorial features! A national drumfire of mentions on the air and television, in dress-manufacturer and department store advertising!

No doubt about it—"the CRISP LOOK of starched cottons" *sells* cottons and that's why cotton producers are throwing support behind it.

CORN PRODUCTS REFINING COMPANY
17 Battery Place, New York 4, N. Y.
producers of starches for the textile industry

There is only one TECA* fiber

*TECA is an Eastman trade mark. It identifies a short, crimped fiber made by Eastman from cellulose acetate—a fiber otherwise known as estron or acetate rayon staple.

Teca fiber has a long-sought combination of qualities never before available in any single textile fiber, natural or man-made. By mixing it with other fibers—such as viscose rayon, cotton, or wool—textile designers have created a basically new group of fabrics—the well-known "Teca blends," now in millions of men's and women's suits, slacks, sports shirts, and dresses.

A high Teca fiber content makes for dimensional stability in a fabric. It is one of the best means of achieving lasting wrinkle resistance . . . one of the surest aids in helping a garment hold its press. Pleasant feel, extraordinary soil resistance, inherent washability, quick drying, are other Teca advantages.

No wonder Teca is being featured more and more in retail store advertising . . . no wonder consumers want to be told of Teca-content. Remember there is only one Teca fiber, and Teca is a selling plus. Specify it. Advertise it.

TENNESSEE EASTMAN CORPORATION

(Subsidiary of Eastman Kodak Company)

KINGSPORT, TENNESSEE

TEXTILE MACHINERY and

PUBLISHED BI-MONTHLY FOR TEXTILE MILL EXECUTIVES AND OPERATING PERSONNEL BY PROCTOR & SCHWARTZ, INC.

• DECEMBER • 1949 •

Swing Continues to Proctor Metallic Wire Worsted Cards

Since its first introduction to the textile industry, the Proctor metallic wire worsted card has been constantly gaining wider and wider acceptance. The results that have been achieved by those using these modern cards, are such that it is inevitable that the swing to metallic wire cards will continue.

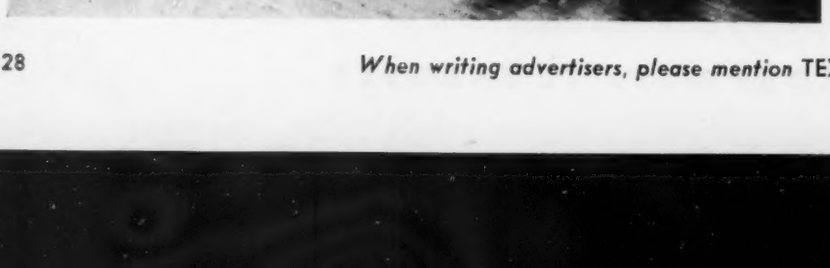
Two of the most recent major installations of these cards have gone into A. D. Juilliard & Co., Inc., in Providence, R. I., and Julius Forstmann & Co., Inc., in Passaic, N. J.—two of America's leading mills.

In every installation, these Proctor cards have replaced older, less efficient cards. Usually *one* Proctor metallic wire card replaces *two* older types—so great are the production possibilities of these cards. Not only is production usually doubled—but the quality of the card sliver is improved. Another significant advantage that is gained, is that card waste is greatly reduced with a resultant greater yield of finished card sliver.

Not only are these advantages recognized by American mills—but have become so well established that the cards are gaining world wide acceptance. Within recent months several Proctor metallic wire worsted cards have been installed in Sweden, France, Argentina, Peru and Morocco.

Independent studies of the operation of these cards in two of the early installations, are available for the asking. Another study of a more recent, large installation is contemplated in the near future and will be made available when it is finished. If you would like to see figures on the production record of these cards—or any other details on their operation—write to Proctor engineers today.

Card room of National Worsted Company, Jamestown, N. Y., another progressive mill now completely equipped with Proctor metallic worsted cards.



INVESTIGATE CONTINUOUS PROCESSING TO STRENGTHEN COMPETITIVE POSITION

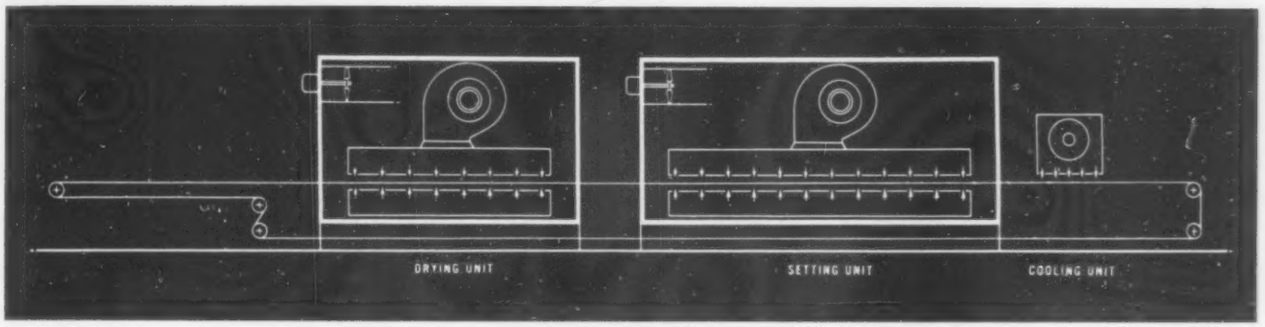
Textile mills, as well as all other manufacturers, are becoming increasingly aware of the return of competition. Alert mill management is constantly on the look-out for ways and means to strengthen their mill's competitive position.

One of the ways that is being utilized more and more, is a swing to continuous processing or range operation. As a matter of fact, a recent study of textile mill operation, made by a large electrical manufacturer, found this to be one of the most significant trends of the industry. Continuous processing brings with it many advantages. Wherever continuous processing has been employed uniformly higher quality has resulted because the inequalities of batch processing have been eliminated. Production is increased, "in-between" losses are reduced, production supervision is simplified and power maintenance costs are reduced.

Proctor engineers have done considerable work in the development and installation of "ranges" of equipment for all types of textile fiber processing and drying problems. If you are interested in strengthening your competitive position—it may well pay you to study your present method of operation and permit Proctor engineers to recommend modern equipment that can be operated in range. It's worth thinking about!

DRYING EQUIPMENT *News*

NYLON TRICOT FABRIC, 120", PERFECTLY and UNIFORMLY SET TO ASSURE ABSOLUTELY UNIFORM DYEING . . .



A development of Proctor engineers

Results obtained in setting 120" nylon tricot fabrics by a leading nylon underwear manufacturer, prove beyond any shadow of doubt that the recently developed equipment in use there and built by Proctor & Schwartz, meets *every* standard of the manufacturer. This equipment is producing a perfect and uniform set throughout the entire width and length of the fabric—and as a result, when the fabric is dyed, the shade is absolutely even. The development of this system is a direct result of close collaboration on the part of Proctor development engineers and the underwear manufacturer's technicians, aided with technical information on nylon from DuPont. It is built on a firm foundation of facts! Its performance is its best evidence.

Briefly, here is how the system (illustrated by the side elevation drawing) will operate. Following the boil-off or scouring, cloth is dried in a pin tenter. Immediately following this, the fabric continues on the same tenter frame into a gas heated housing where it is subjected to carefully controlled temperatures sufficiently high to insure proper setting. Specially designed nozzles make possible circulation of heated air in such a way that an even distribution is assured and uniform setting accomplished. Because the physical properties of nylon are such that cloth should be cooled before removing it from the pins, the system embodies a cooling unit to finally reduce fabric temperature. Most nylon tricot can be set at the rate of about 30 yards per minute—although details in the design to accommodate different capacities, can be worked out with individual mills.

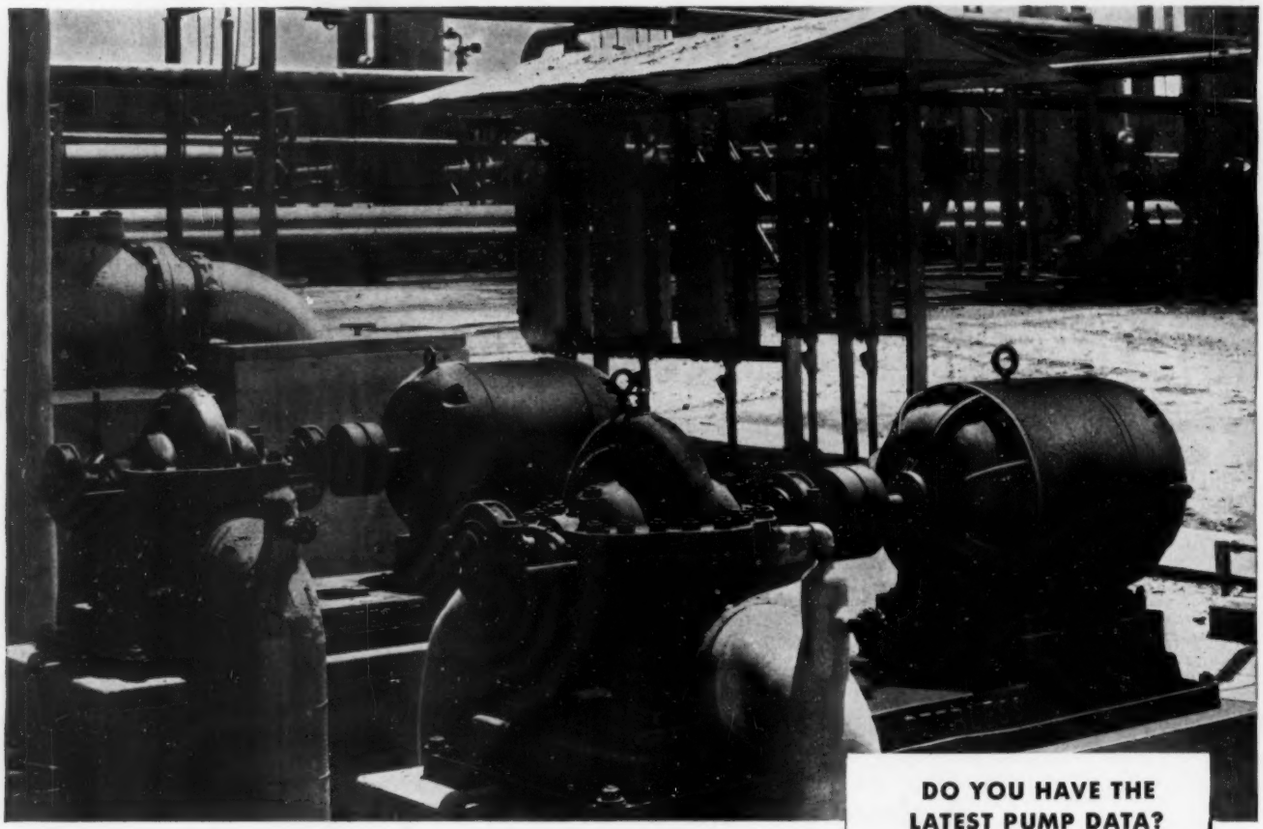
Any mill already using a wide tenter may accomplish setting by adding a heat treating unit as a separate piece of equipment—or may extend their present tenter to include the heat treating and cooling phases of this operation.

Proctor engineers will welcome the opportunity to discuss the details of this modern, much needed system with any textile mill. Give as much information about your fabric and current method of processing as possible when writing.

Much Proctor drying equipment and textile machinery is covered in full or in part by patents or patents pending

Proctor & Schwartz Inc. • 610 Tabor Road • *Philadelphia 20* • *Pa* •

WHERE THERE'S A PUMP IN YOUR PLANS



Plan with Peerless Centrifugal Pumps

From plan to plant there's a Peerless horizontal centrifugal pump that meets your needs. For the diversified, continuous duty services of private industries and public projects, Peerless Pumps incorporate many proved advantages in design and construction for extended pump life and operative economy.

All along your flow lines, Peerless can provide pumps incorporating the latest principles of hydraulic practice and experience plus the versatility and efficiency you require for *peerless* pumping performance.

For example, the pumps shown above are single stage, double suction, general purpose Type A pumps, a comprehensive line of Peerless pumps offering a capacity range from 50 to 60,000 gpm. There are scores of other Peerless types, hundreds of other Peerless models for thousands of pumping applications. Peerless furnishes horizontals for handling solids in suspension as well as for clear liquids. There are pumps for boosting, circulating, transferring and filtering. They can handle volatile L-P Gases or tricky acid, basic and salt solutions. They can move liquids at high temperatures or they can provide water (or foam) for *Underwriters' approved* fire protection. Duty can be intermittent or continuous; both single and multi-stage units, with the type of drive you desire, are available, meeting widest head and capacity conditions. Pump and driver are engineered as a unit, tested in a modern hydraulic laboratory that duplicates actual field conditions, to match or exceed purchasers' expectations.

Plan with Peerless for all your needs for pumps. Peerless field and sales engineers are located in all principal cities to help you whenever and wherever there's a pump in your plans. For pump engineering information or service, call on them, or if you prefer, write for the latest pump engineering data. The chart at the right lists a number of the types of Peerless horizontal pump bulletins in which you will be interested.

DO YOU HAVE THE LATEST PUMP DATA?

Informative Engineering Bulletins Available From Peerless Pumps

Here are a few of the services Peerless Pumps perform. Request data by Bulletin number.

Pump Service	Bulletin No.
Water Supply	B-1300
Fire Protection	B-1500
Chemicals and Oils	B-810
Vaporous Liquids	B-2201
Butane-Propane	B-2200
Boiler Feed	B-301
Sewage and Solids	B-154
Hi-Pressure	B-310
Acids and Caustics	D-2400
Process Services	B-803
All-purpose Pumps	B-2301

Peerless
VERTICAL AND HORIZONTAL
Pumps

fmc PEERLESS PUMP

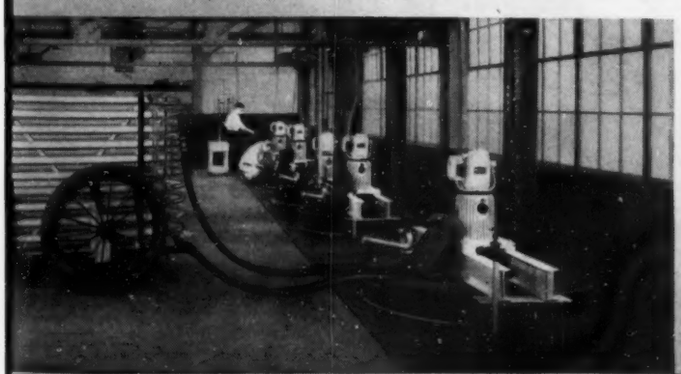
PEERLESS PUMP DIVISION
FOOD MACHINERY AND CHEMICAL CORPORATION
Los Angeles, California — Indianapolis, Indiana
District Offices: New York 5, 37 Wall St.; Chicago 40, 4554 N. Broadway; St. Louis 8, 3908 Olive St.; Atlanta Office: Rutland Bldg., Decatur, Ga.; Omaha, Nebr., 4330 Leavenworth St.; Dallas 1, Tex., 3905 Elm St.; Fresno, Calif.; Los Angeles 31, Calif.

PYREX

eliminates the risk of contamination

Many metals contaminate the finest dyestuffs, causing spots on the finished fabric.

To *eliminate* this "risk", we've even gone so far as to build our own special apparatus of PYREX GLASS, such as the illustrated Heat Exchanger to replace ordinary metal equipment.



This unique, ultra modern PYREX Heat Exchanger is a portable piece of equipment through which is pumped the fluids to be heated or cooled.

In manufacturing, Althouse dyes never come in contact with corrosive metals while in the wet stage.

ALTHOUSE
Chemical Company, Inc.
READING · PA.

Pace-setter in precision dye-making

Why buy piping the hard way When CRANE supplies everything?

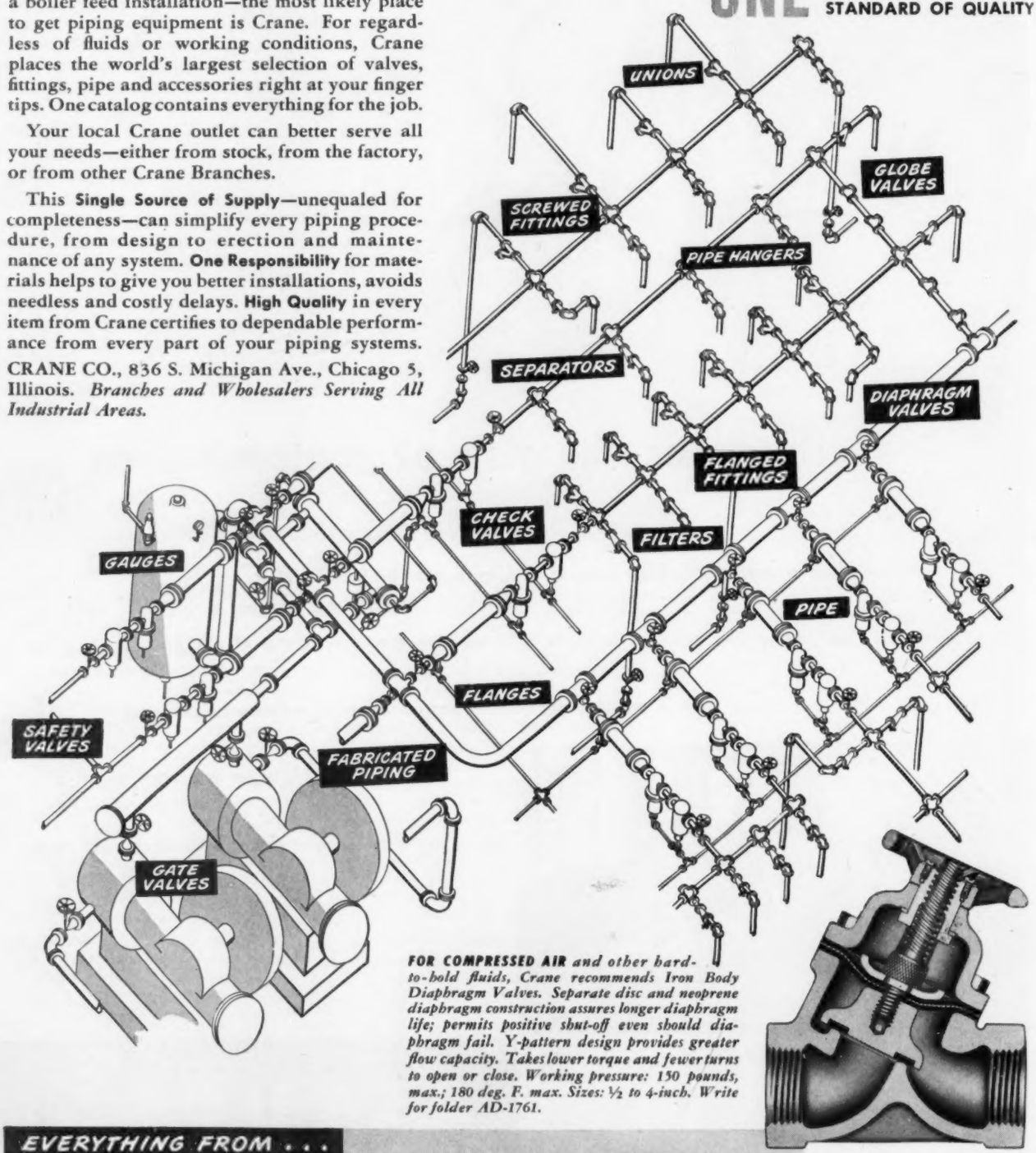
ONE SOURCE OF SUPPLY
RESPONSIBILITY
STANDARD OF QUALITY

For Air Service Piping—as for a superheater or a boiler feed installation—the most likely place to get piping equipment is Crane. For regardless of fluids or working conditions, Crane places the world's largest selection of valves, fittings, pipe and accessories right at your finger tips. One catalog contains everything for the job.

Your local Crane outlet can better serve all your needs—either from stock, from the factory, or from other Crane Branches.

This **Single Source of Supply**—unequaled for completeness—can simplify every piping procedure, from design to erection and maintenance of any system. **One Responsibility** for materials helps to give you better installations, avoids needless and costly delays. **High Quality** in every item from Crane certifies to dependable performance from every part of your piping systems.

CRANE CO., 836 S. Michigan Ave., Chicago 5, Illinois. *Branches and Wholesalers Serving All Industrial Areas.*



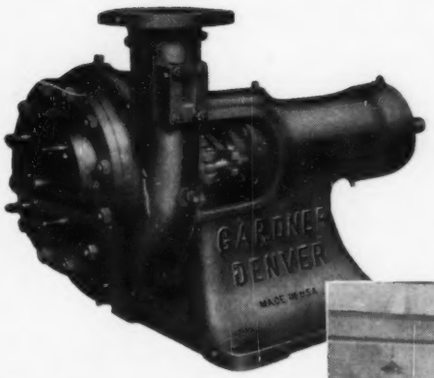
FOR COMPRESSED AIR *and other hard-to-hold fluids, Crane recommends Iron Body Diaphragm Valves. Separate disc and neoprene diaphragm construction assures longer diaphragm life; permits positive shut-off even should diaphragm fail. Y-pattern design provides greater flow capacity. Takes lower torque and fewer turns to open or close. Working pressure: 150 pounds, max.; 180 deg. F. max. Sizes: ½ to 4-inch. Write for folder AD-1761.*

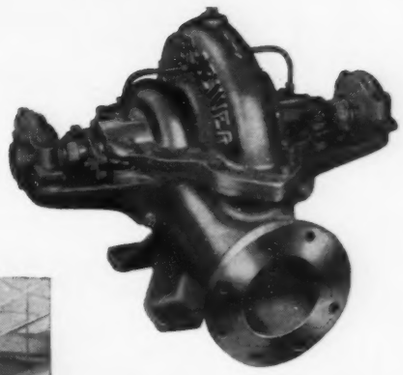
EVERYTHING FROM . . .

VALVES • FITTINGS
PIPE • PLUMBING
AND HEATING

CRANE

FOR EVERY PIPING SYSTEM

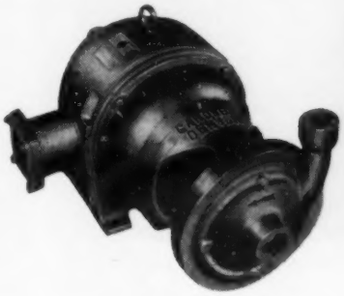


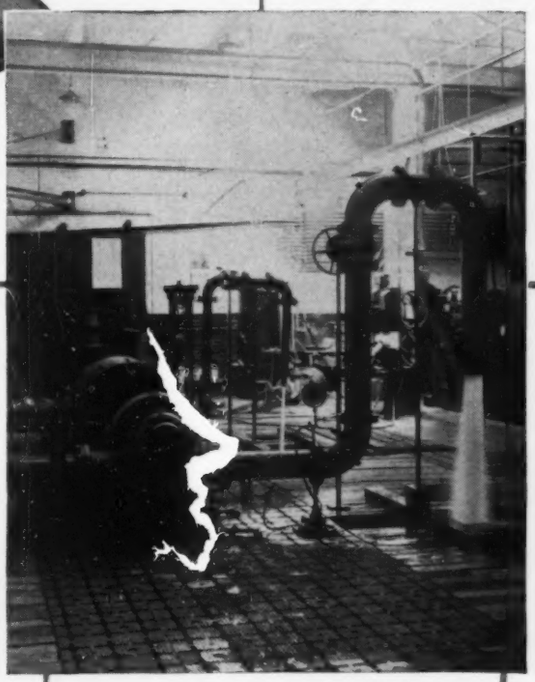


FOR HANDLING FLUIDS CONTAINING SOLIDS up to 6 inches in diameter, Gardner-Denver Sewage and Waste Disposal Pumps are built in capacities from 50 to 5000 gallons per minute.

RUGGEDLY CONSTRUCTED FOR LARGE CAPACITY Gardner-Denver Horizontally Split Case Double Suction Centrifugals are available in sizes for all heads up to 300 feet.

COMPACT Gardner-Denver Close-Coupled Centrifugal Pumps may be installed in any horizontal or vertical position—are designed for capacities up to 250 gallons per minute and heads up to 250 feet.





Gardner-Denver's modern hydraulic testing laboratory, showing centrifugal pump direct connected to Dynamometer for efficiency test.

FOR GENERAL UTILITY SERVICE Gardner-Denver Side-Suction Centrifugal Pumps are made in capacities up to 1600 gallons per minute and heads up to 100 feet.

Fully Tested For Full-Value Efficiency Gardner-Denver Centrifugal Pumps

Since 1859

You can be sure of getting *full-value* efficiency on every one of your pumping jobs when you insist on Gardner-Denver *fully tested* Centrifugal Pumps. For every Gardner-Denver pump you buy has already proved its dependability and power economy — through thorough and accurate testing in our modern hydraulic laboratory, completely equipped with the best and most accurate testing equipment available. It's no wonder these popular pumps so easily attain and often exceed their rated efficiencies in hundreds of different kinds of pumping installations.

For expert advice on selecting just the right Gardner-Denver Centrifugal for any installation, or for further information on any of the pumps described here, write Gardner-Denver Company,

GARDNER-DENVER

Gardner-Denver Company, Quincy, Illinois
In Canada: Gardner-Denver Company (Canada) Ltd., Toronto, Ontario

Atlanta, Ga.	Knoxville, Tenn.	Philadelphia, Pa.
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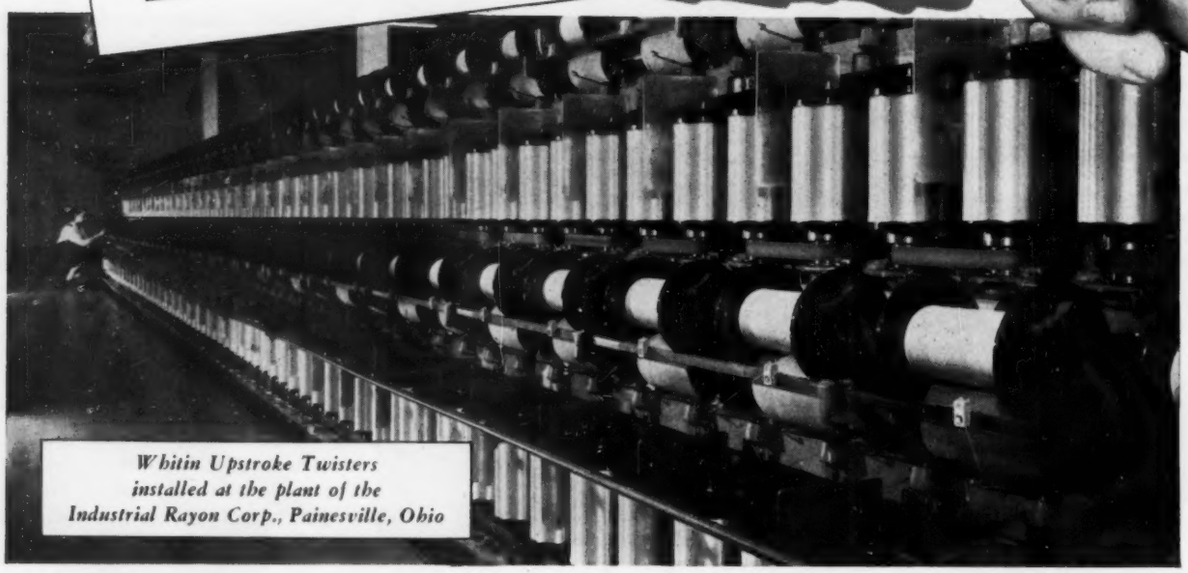
Boston, Mass	New York, N. Y.	New Orleans, La.

What's WHITIN doing about TWISTERS?



Whitin Upstroke Twisters installed at the plant of the Industrial Rayon Corp., Painesville, Ohio

Photo courtesy of Industrial Rayon Corporation

For 75 years, constant developments in design — in quality — and in performance have created an enviable reputation for Whitin Twisters for *natural* fibers. With the advent of the first continuous-filament *synthetics*, new industry requirements were established and new impetus given to Twister development. Accepting the challenge, Whitin quickly undertook an aggresive and intelligent Twister development program.

There is concrete evidence today that this program has been as successful as it was varied. Within the last twenty years, Whitin has developed 15 different models of upstroke twisters, and more than 25 different models of ring twisters. These twisters today are processing millions of pounds of nearly every known commercial fiber, not only the natural fibers, but also for asbestos, glass, paper and various synthetic fibers such as rayon, nylon, vinyon, and saran.

Many of our current models are operating with both larger packages and higher traveler speeds than had heretofore been considered practical, resulting in greatly increased yarn production. Whether you are running tough rayon tire cord or yarns for the most delicate fabrics, there is a Whitin twister to do the job better, faster, and more economically.

If the twisting process is an essential step in the production of your product, we can help you. Yes, Whitin has really been doing something about twisters.

Whitin MACHINE WORKS

WHITINSVILLE, MASSACHUSETTS
CHARLOTTE, N. C. • ATLANTA, GA.

The Race is to the Swift!

For Prompt Delivery of Dyestuffs

specify *National Aniline Dyes*

NATIONAL ANILINE DIVISION • ALLIED CHEMICAL & DYE CORPORATION

40 RECTOR STREET. NEW YORK 6, N.Y.

BOSTON • PROVIDENCE • PHILADELPHIA • CHICAGO • SAN FRANCISCO • PORTLAND, ORE.
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BARBER-COLMAN

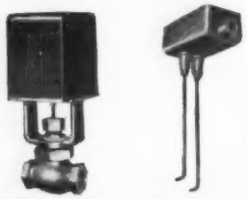
COMPLETE, AUTOMATIC

Slasher Room Controls

Electronic

MOISTURE CONTENT CONTROLLER

An *all-electronic* instrument that controls slasher speed constantly to compensate for all variables and to produce warps of uniform and optimum moisture content.



SIZE BOX CONTROLS

Two functions are performed — maintenance of uniform size temperature and maintenance of proper size level in the box.

CYLINDER TEMPERATURE CONTROLS

Essentially, these are motor-operated valves on the steam supply line governed by thermostats in each cylinder, with any desired indicating or recording accessories.

TEMCHRON

SIZE COOKING CONTROL

Assures uniformity of size from batch to batch by automatic control of warm-up time, cooking time and temperature, and holding temperature. Fully adjustable.

INCREASE SLASHER PRODUCTION

IMPROVE WEAVE ROOM EFFICIENCY

When considering *self-liquidating* improvements in a textile mill, no mill executive should overlook the slasher room. Modern automatic control equipment installed on existing machines costs relatively little and can pay for itself in a short time. Barber-Colman Complete Slasher Room Controls include: (1) TEMCHRON Size Cooking Controller that assures uniformity of batches through automatic control of warm-up time, cooking time and temperature, and holding temperature; (2) Automatic temperature control for size storage kettles; (3) Temperature controls and level controls for the size box, to provide constantly uniform condition of the size being used; and (4) Automatic *Electronic* MOISTURE CONTENT CONTROLLER that constantly regulates the speed of the slasher to compensate for all variables, and assures the delivery of warps with uniform and optimum moisture content. The effect of these controls is a considerable increase in slasher production and a noticeable improvement in weave room efficiency through improved warps as shown by the typical results reported below. Consult your Barber-Colman representative concerning possible improvements and savings in *your* mill — his advice and recommendations are available without obligation.

TYPICAL RESULTS
OF INSTALLING BARBER-COLMAN SLASHER CONTROLS

A South Carolina mill, slashing 19s cotton warp for ticking, secured a slasher production increase of over 30%. Weave room efficiency was increased 2.0% and there was an improvement in quality of goods.

Another South Carolina mill, weaving print goods from 30s yarn, increased slasher production by 20% even though steam pressure on the cylinders was reduced from 10-12 psi to 1-3 psi.

A North Carolina mill, weaving sheeting from 20s yarn, found slasher production was increased by 25% and weave room efficiency by 1.5%.

Another North Carolina mill, weaving fancy striped shirtings from 40s yarn, did not try to increase slasher production because of an established yarn inspection and repair operation, but did obtain sufficient benefits from quality improvement, increased weave room efficiency, and better tying-in to justify the investment.

Six New England and Canadian mills report increases in slasher speed ranging from 15% to 50%. Another New England mill actually increased speed by 100%, but the yarn was previously very much overdried.

Write for Literature

BARBER-COLMAN COMPANY
ROCKFORD, ILLINOIS

BOSTON, MASS. • GREENVILLE, S. C. • GREENSBORO, N. C.

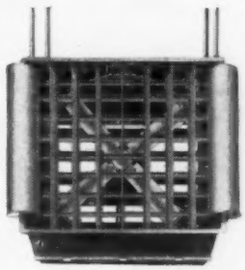
AMCO — *specialists in humidifying and air-conditioning devices*

These devices as well as the complete humidification and cooling systems manufactured and installed by the American Moistening Company are the product of sixty years of cooperative research with the textile industry. All Amco equipment shares four important common characteristics . . . simplicity, practicality, capacity and basic economy . . . reasons why Amco equipment is preferred by textile mills.

AMCO AUTOMATIC SELF-CLEANING ATOMIZERS provide better spray without drip or feathering down. Automatically clean both air and water orifices. Assure trouble-free humidification. Over 500,000 now serving the textile industry.

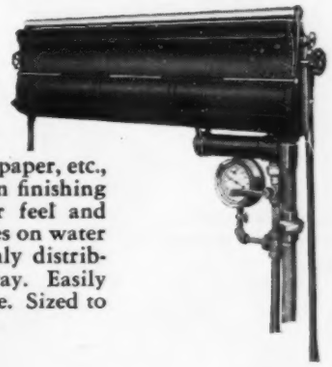
AMCO HUMIDITY CONTROL. The supersensitive hygroscopic control element assures exceptionally close regulation of relative humidity. Extremely simple design plus rugged construction for minimum maintenance and maximum durability.

AMCO EVAPORATIVE COOLING UNIT—adaptable to existing humidifying systems and providing extreme flexibility. Promotes comfort and efficiency of workers by maximum cooling effect from evaporation. Introduces outside air into room in amounts regulated by climatic conditions and inside requirements. Amco Evaporative Cooling maintains the relative humidity best suited to the fibres and processes.



Amco Atomizers and Cooling Units in a Spinning Area.

AMCO AMTEX HUMIDIFIER. A self-contained unit designed for small areas, such as laboratories, where exacting conditions are to be maintained. No compressed air required.



AMCO DAMPENER, for textiles, leather, paper, etc., to apply moisture in finishing processes for better feel and appearance. Operates on water pressure, gives evenly distributed atomized spray. Easily regulated, adjustable. Sized to your requirements.

AMCO ELECTRO PSYCHROMETERS. An electrically driven fan draws air over wet and dry thermometer bulbs to provide extra accuracy of readings where space does not permit use of sling psychrometer.

AMCO SLING PSYCHROMETER in protective casing. A convenient size for mill use. Thermometers are carefully calibrated and have magnifying type tubes for easy reading.

Write for complete description of any of these AMCO devices or AMCO humidification and cooling systems.

AMCO

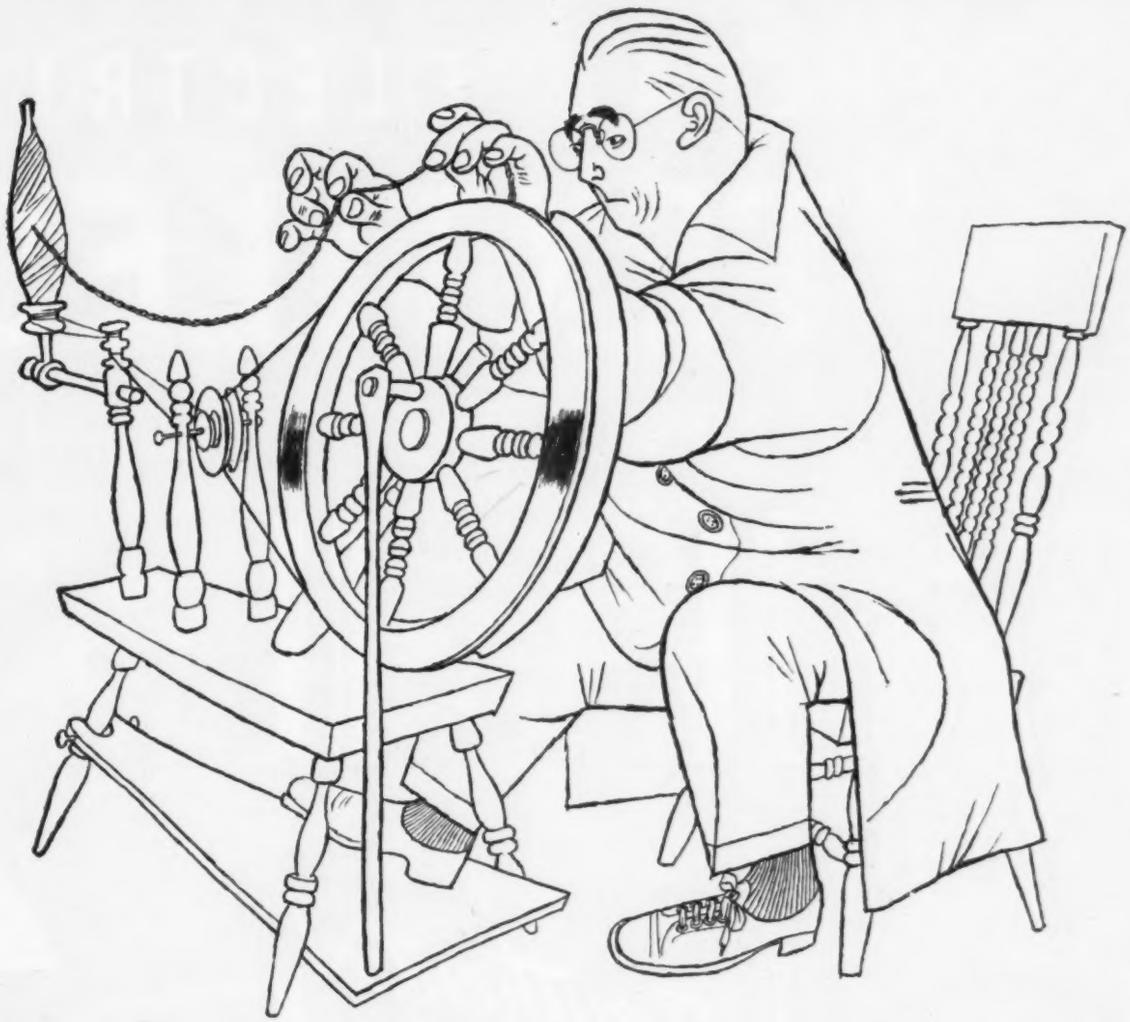
HUMIDIFICATION AND COOLING

AMERICAN MOISTENING CO., AFFILIATED WITH GRINNELL COMPANY, INC., PROVIDENCE, R. I. • BOSTON • ATLANTA • CHARLOTTE

Crompton & Knowles Loom Works

WORCESTER 1, MASSACHUSETTS, U. S. A.

PHILADELPHIA, PA. • CHARLOTTE, N. C. • ALLENTOWN, PA. • CROMPTON & KNOWLES JACQUARD & SUPPLY CO., PAWTUCKET, R. I.



If you make textiles...

(No matter how you make them, you need detergents.)

the Armour man is the man to see because he has more different soaps and synthetics than anybody!

(He's bound to have just the ones you need. Write him today.)

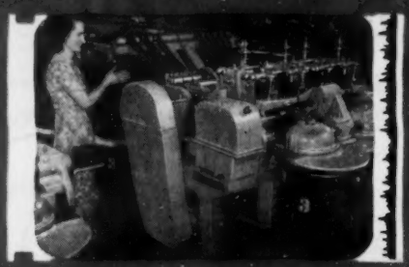
ARMOUR *Industrial Soap Division*

Armour and Company • 1355 West 31st Street • Chicago 9, Illinois

GENERAL ELECTRIC "TEXTILES

Dramatically— it presents the latest facts on these vital topics!

Mill Modernization
. . . lighting, air conditioning, better acoustics, better use of color, etc.



Finer Quality Control
. . . how it is being obtained in leading mills of every type.

Power at the Point of Use
. . . individual electric drives for a wide range of machines.

it's authentic!

Filmed under actual operating conditions in mills like yours!

Materials Handling
. . . and the ways in which it can cut your manufacturing costs.

Higher Controlled Speeds
. . . as a way to increase the productivity of your machines.

Modern Power Distribution
. . . and the part it plays in cutting over-all production costs.

Continuous Processing
. . . two machines or twenty in one efficient, cost-cutting range.

New Processing Methods
. . . and their importance in opening new textile markets.

ANNOUNCES "UNLIMITED"

A new, full-color sound movie on Textile Mill Modernization

PACKED WITH QUALITY-IMPROVING, COST-CUTTING IDEAS!

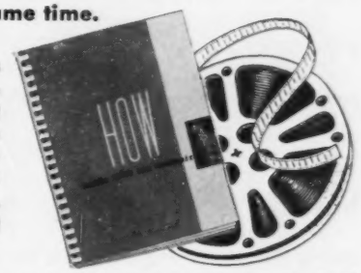
With material and labor costs up and competition tougher, you don't want to miss a single opportunity to cut your manufacturing costs and improve the quality of your product. That's why we know you'll want to see "Textiles Unlimited." General Electric's new full-color sound movie on how textile mills are modernizing.

Practically every phase of modernization is covered in this dramatic, yet highly factual presentation. Lighting, air conditioning, power distribution, machine drives, quality control—these are only a few of the pertinent subjects treated. What's more, the ideas shown *in action* are practical—this film was made in mills located in every important textile area.

Don't delay! Arrange now to see this film. Mail the coupon—we'll do the rest. *Apparatus Dept., General Electric Company, Schenectady 5, N. Y.*

Here's how you can arrange to see this movie *and* get a FREE MODERNIZATION MANUAL at the same time.

Mail the coupon below to let us know you would like to see "Textiles Unlimited." We'll also send you a FREE copy of "How Textile Mills Are Modernizing," a 100-page illustrated reference manual for textile mill modernization. (Additional copies at cost—$1.25)



General Electric Co.
Section J654-8, Apparatus Dept.
Schenectady 5, N. Y.

Yes—I'd like to see your new modernization movie "Textiles Unlimited." Also, please send me a FREE copy of "How Textile Mills Are Modernizing" (Bulletin GEA-4998).

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More Power to America

GENERAL ELECTRIC

Take the Kinks Out

OF KIER BOILING WITH OLATE

No matter what type of cleaning agent you now are using in kier boiling, *you can do a better job with the help of Olate.* That's a bold claim, but it's backed by the successful experience many and many a mill has had with this pure, neutral, low titer soap.

Olate's emulsifying properties are outstanding. Cottons come out of the kier with a clean bottom which assures good bleaching and uniform dyeing.

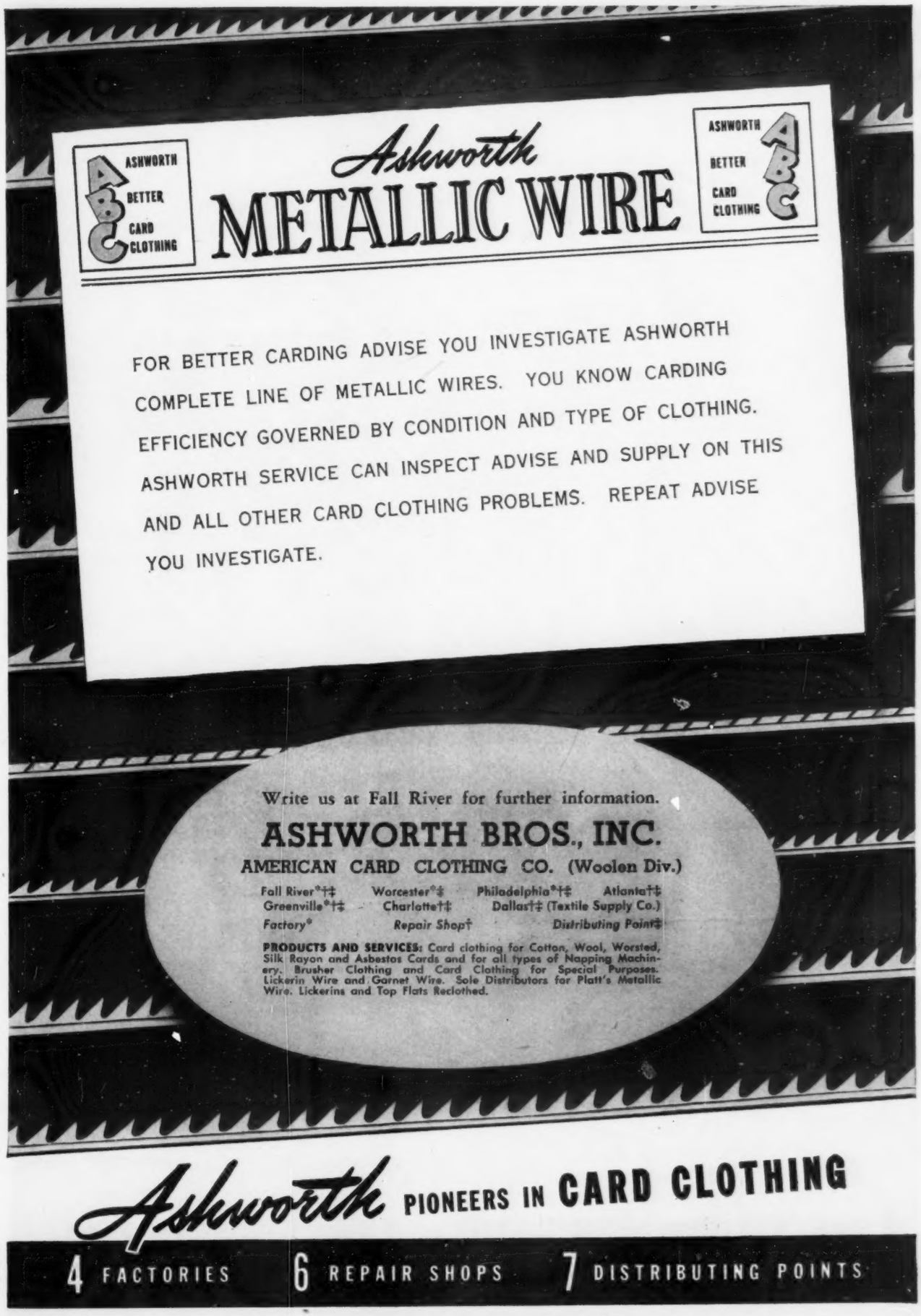
MINIMIZES HARD WATER TROUBLES . . . If you're using hard water, you'll like Olate's performance. Olate forms finely dispersed hard water curds which are surprisingly free from any tendency to stick to the cloth and cause trouble in later operations. Niggerheads are minimized.

FASTER RINSING, TOO!
In cold rinses which usually follow kier boiling, Olate again shows its efficiency. This operation is fast and thorough—thanks to Olate's low titer.

A test run with Olate will demonstate its efficient performance, safety and economy. Why not place a trial order *now?*

PROCTER & GAMBLE CINCINNATI, OHIO

Olate *the universal textile soap*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FOR BETTER CARDING ADVISE YOU INVESTIGATE ASHWORTH COMPLETE LINE OF METALLIC WIRES. YOU KNOW CARDING EFFICIENCY GOVERNED BY CONDITION AND TYPE OF CLOTHING. ASHWORTH SERVICE CAN INSPECT ADVISE AND SUPPLY ON THIS AND ALL OTHER CARD CLOTHING PROBLEMS. REPEAT ADVISE YOU INVESTIGATE.
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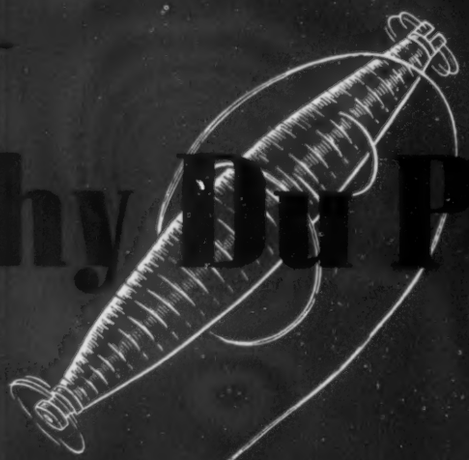
PRODUCTS AND SERVICES: Card clothing for Cotton, Wool, Worsted, Silk Rayon and Asbestos Cards and for all types of Napping Machinery. Brusher Clothing and Card Clothing for Special Purposes. Lickerin Wire and Garnet Wire. Sole Distributors for Platt's Metallic Wire. Lickerins and Top Flats Reclothed.
Ashworth PIONEERS IN CARD CLOTHING
4 FACTORIES 6 REPAIR SHOPS 7 DISTRIBUTING POINTS

Why Du Pont for



FOR NYLON . . . FOR RAYON . . . FOR FIBERS TO COME

Textile Fibers?

STOCKINGS TO TIRES TO—?

Du Pont technicians never think they know all about any fiber. The proved properties and the possible properties of all Du Pont fibers are continually tested and retested in Du Pont laboratories and under mill conditions.

Ten years ago Du Pont presented America with a new man-made fiber. Through close cooperation between Du Pont technicians and textile mill specialists, nylon proved the right fiber for a thousand and one textile needs from stockings to tires.

And the surface has only been scratched. Almost every day brings new uses for nylon, new fabric constructions, more efficient techniques for handling nylon in the mill, on the cutting table. Nylon is still a fiber with a future. It is still a new frontier for the textile industry; still a challenge for mills that are looking toward tomorrow.

ACETATE DIVISION • NYLON DIVISION • RAYON DIVISION

Rayon Department

E. I. du Pont de Nemours & Co. (Inc.), Wilmington 98, Delaware

DU PONT

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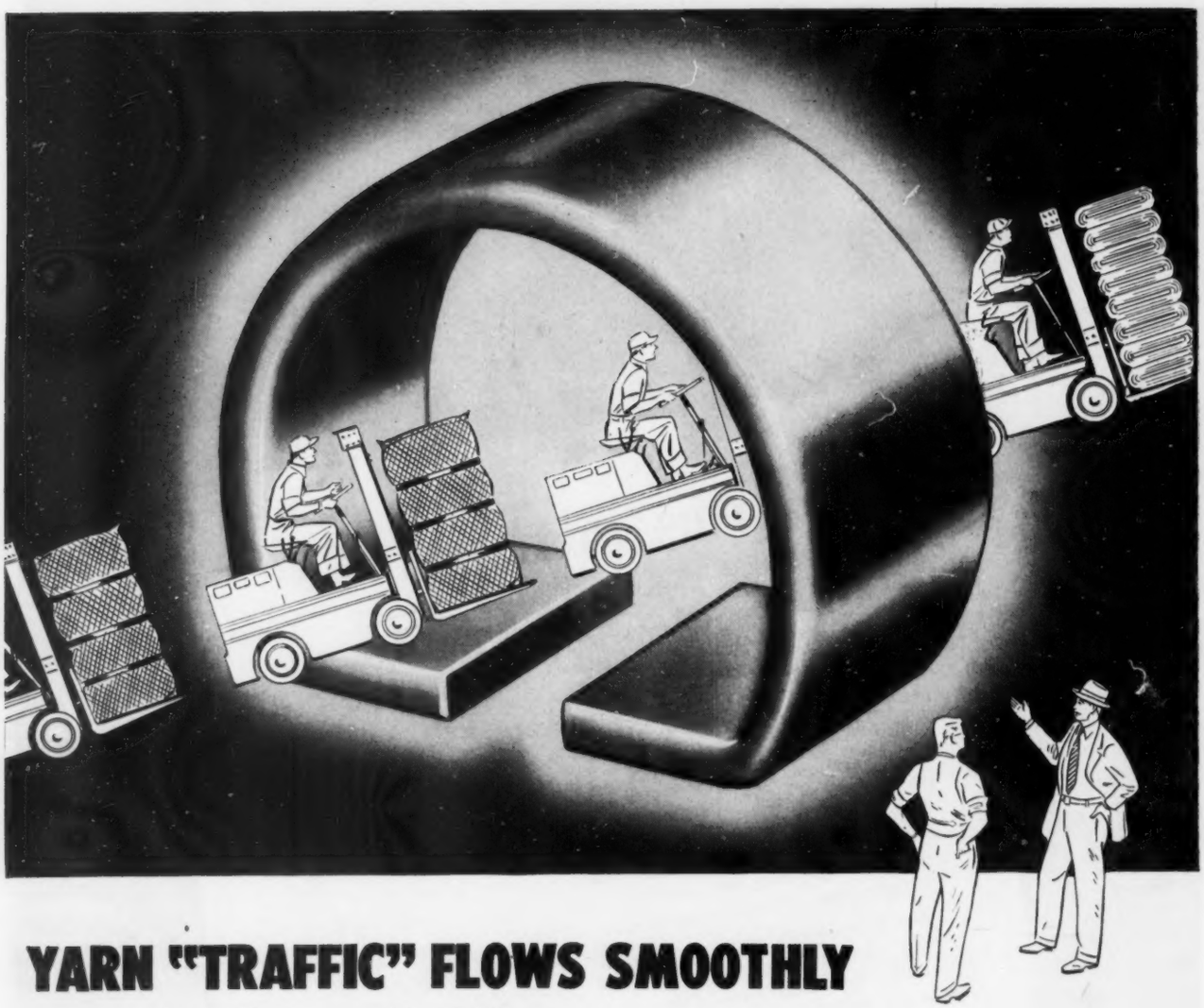
BETTER THINGS FOR BETTER LIVING . . . THROUGH CHEMISTRY

. . . LOOK TO DU PONT



YARN "TRAFFIC" FLOWS SMOOTHLY

. . . *through Victors*

SINCE MOST MILLS' entire output passes through travelers — whether yarn traffic is speeded or stalled depends on your selection.

Which are your travelers — bottlenecks or broad highways? Assuming equipment is in proper condition, if the traveler is **wrong**, the flow of work through the mill will be slowed up at the spinning or twisting, production will lag, quality will suffer, and profits will sag. If the traveler is **right**, you can meet output schedules, cut down waste, and upgrade quality.

With the many new developments in synthetics and blends, it is becoming more and more difficult to be sure the traveler you use is **right** for the job. To save valuable time in setting up the smooth-running spinning and twisting you want, you need up-to-the-minute information.

There's a man near you who knows what you want to know about choosing travelers. He's the Victor Service Engineer and his job is to keep abreast of every new development. He will help you select the **right** traveler for any fiber, any blend you may be running. Write, wire, or phone the nearest Victor office for prompt service.

Keep a Step ahead with

VICTOR Ring Travelers

VICTOR RING TRAVELER COMPANY

PROVIDENCE, R. I. . . . . 20 Mathewson St. . . . . Tel. DExter 1-0737

GASTONIA, N. C. . . . 358-364 West Main Ave. . . . . Tel. 5-0891

PROMPT DELIVERY!

Ste-hed-co

ELECTRICAL AND MECHANICAL

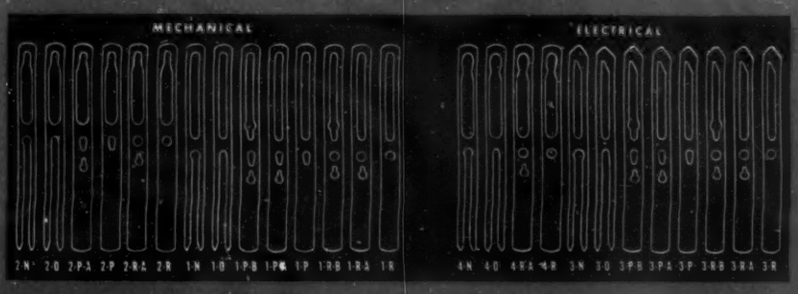
DROP WIRES

DROP WIRE worries can now be eliminated as a production problem. World-famous "Ste-Hed-Co" Electrical and Mechanical Drop Wires are *again available* and ready in styles and quantities to meet your needs.

Their perfectly shaped and highly polished thread eye plus exacting high quality standards to which they are manufactured — in weights for all sizes of warp yarn — explains why Ste-Hed-Co Electrical and Mechanical Drop Wires are the first choice of leading mills everywhere.

Accurately processed in *all stainless steel* and high grade tempered and polished steel with galvanized, copper, or nickel plated finish, gives you a range of metals and finishes from which you select the one best suited to fit your particular needs.

Remember, *DELIVERY* will be *PROMPT*... large wire inventory on hand assures fast shipment. Try Ste-Hed-Co **SERVICE** . . . see why dependable Ste-Hed-Co products "Weave the World's Needs."



Ordering is simple too . . . furnish a sample or use the diagram — left — designating the style, width and thickness of wire and length you require . . . also tell us the metal finish you desire.

MANUFACTURERS OF —
Flat Steel Heddles
Loom Harness Frames
Loom Reeds
(Pitch Band and All Metal, Regular and Stainless Steel Wire)
Warp Preparation Equipment
Loom Harness Accessories
Electrode Rods
(Fibre and Plastic Insulation)
Southern Shuttles
(Tempered Dogwood, Persimmon and Fibre Covered)

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SOUTHERN SHUTTLES DIVISION Paris, Greenville, S. C.

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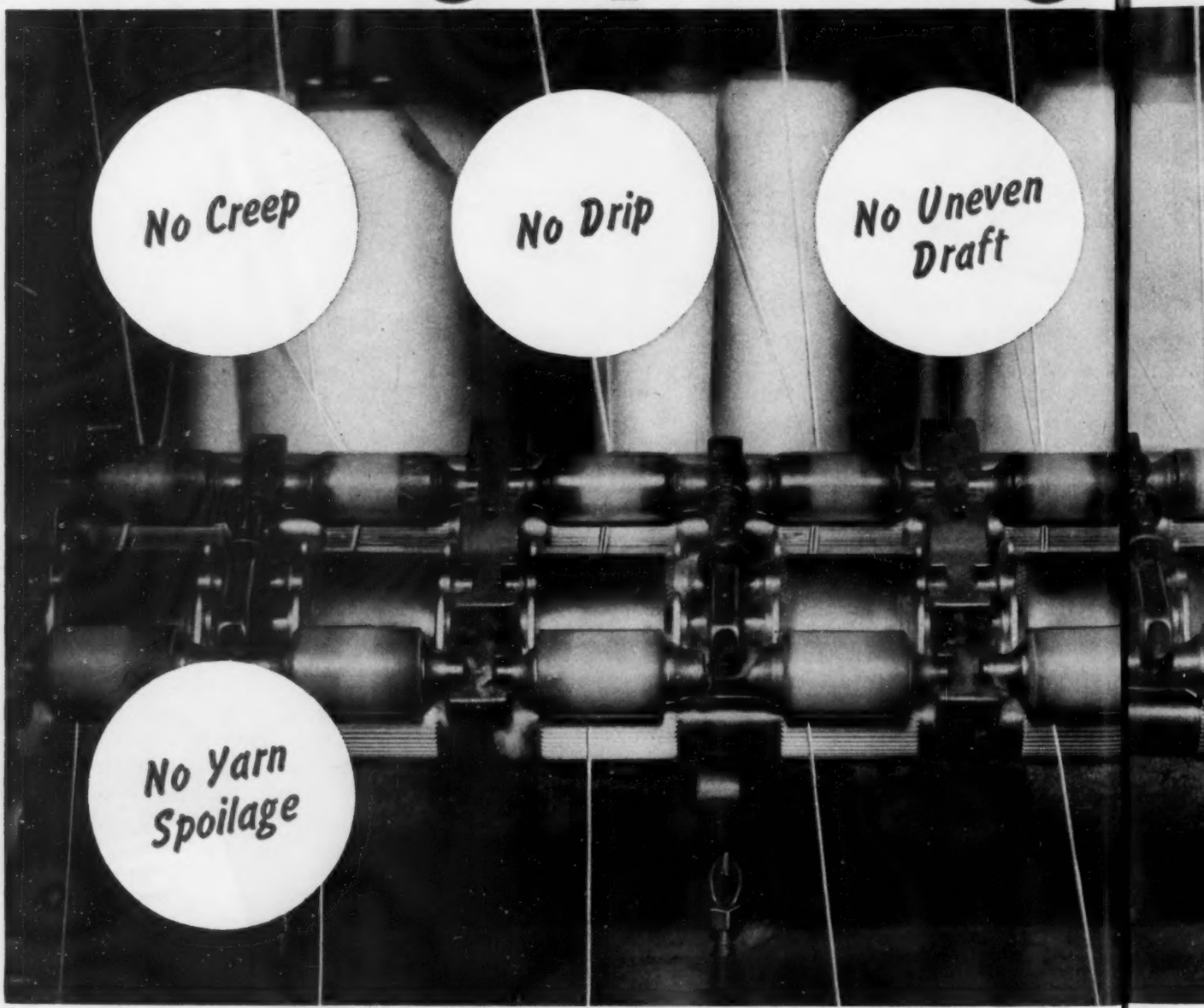
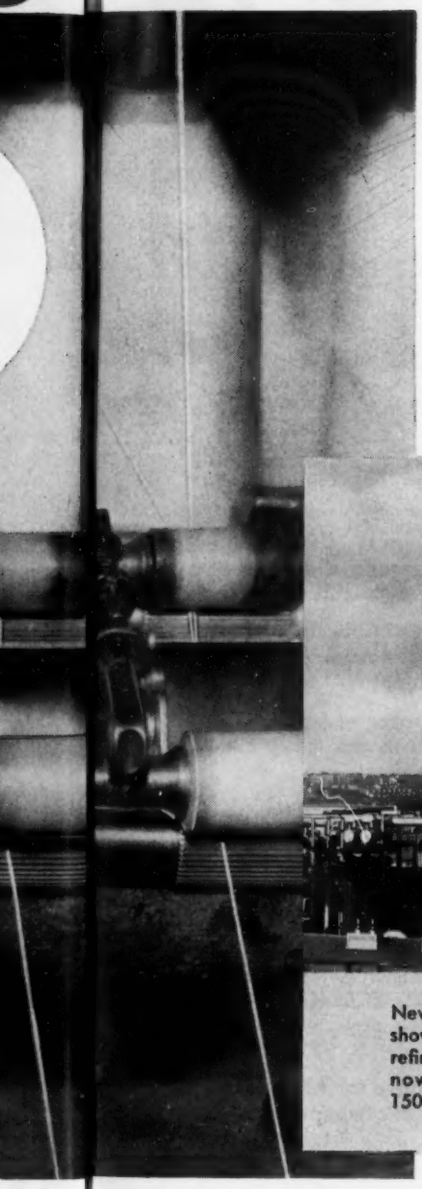
Sinclair NO-DRIP
4 Big Spinning



SINCLAIR

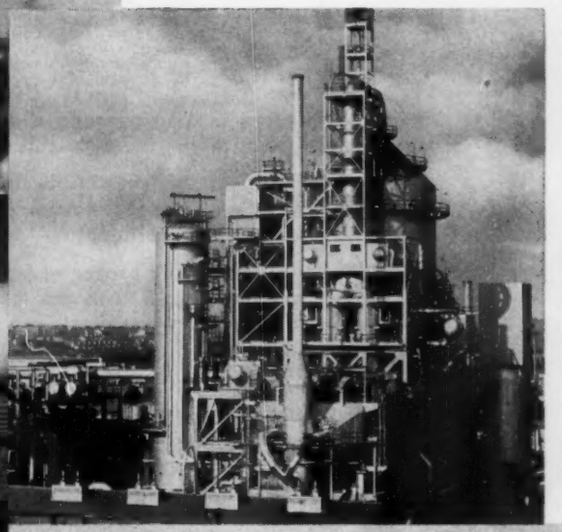
YOUR NEAREST SUPPLIER OF SINCLAIR PRODUCTS WILL GLADLY ARRANGE

LUBRICANT Solves Room Problems



In the spinning room, production may be retarded unless the top rolls are lubricated properly. The problem is to provide adequate lubrication while avoiding creeping of the lubricant or drip onto bottom rolls. A lubricant spreading onto the roll cots will spoil the covering and stain the yarn.

Sinclair NO-DRIP Lubricants have the correct combination of properties to provide desired performance. They reach all the parts where lubrication is needed—*but they do not stray away.*



New Fluid Catalytic Cracking Stills (like the one shown here) are helping to expand Sinclair's refinery output. Sinclair's great refineries are now turning out products at the rate of 150,000,000 gallons of lubricating oil yearly.

About 40% of all the Aircraft Engine Oil used by domestic Airlines in the U.S.A. is supplied by SINCLAIR. The same careful research that developed this high quality oil for the Airlines is put into NO-DRIP and other Sinclair Oils.

TEXTILE LUBRICANTS

FOR LUBRICATION COUNSEL, OR YOU MAY WRITE TO SINCLAIR REFINING COMPANY, 630 FIFTH AVE., NEW YORK 20, N. Y.

WIPE OUT STATIC

from Your Production Picture with NOPCO* 1656-R the antistatic oil that assures better WORSTED production

Today, when speeded-up processes in worsted yarn manufacture tend to promote static, you'll find Nopco 1656-R an ideal trouble killer.

Fibers treated with this specifically formulated oil remain static-free throughout carding, gilling, combing and drawing operations.

You'll avoid "wild" and broken ends, produce even-running, quality yarn with this new, antistatic lubricant.

Nopco 1656-R also ***eliminates*** oxidation, and ***reduces*** soap costs *75%*. In fact, this remarkable new oil enables the worsted manufacturer to obtain exceptionally good results—comparable to those achieved by users of famous Nopco FUA oil for processing wool.

Yes, Nopco 1656-R means HIGH QUALITY WORSTED YARNS PRODUCED ECONOMICALLY . . . and in these competitive days what is of more importance to you?

Ask your Nopco representative for full details, or write today for complete information.

NOPCO TRADEMARK EVOLVED THRU RESEARCH

NOPCO CHEMICAL COMPANY

Formerly National Oil Products Company

HARRISON, NEW JERSEY

Branches: Boston • Chicago • Cedartown, Ga. Richmond, Calif.

* Reg. U. S. Pat. Off.

NEW RUSSELL SPINDLE TAPES

reduce stretch, windage, friction, wear

PATENT PENDING

NOW you can get constant spindle speeds! Tests have proven that RUSSELL Nylon Filling Spindle Tapes minimize stretch. If you want more than this from a tape, listen to these other exclusive advantages: RUSSELL won't balloon because the porous blue center line blows out the trapped air which causes windage. On the departing side of the spindle, this same air escape punctures the retarding vacuum caused by the tape leaving the whorl. RUSSELL won't wear out down the center as the flexible Blue Line allows it to hug the whorl across its full width, thus three times as much wearing surface is usable. RUSSELL won't fray at its Nylon edges, an important factor in preventing stretch and breakage. RUSSELL runs cooler as thin Nylon filling, crossed by the resilient cotton warp, creates less frictional heat. Reduce heat — retard deterioration — cut "down time" — lower maintenance costs with RUSSELL Tapes. Manufactured by THE RUSSELL MANUFACTURING COMPANY.

Another Development

ESPECIALLY FOR COTTON TWISTING & WORSTED MILLS

Extra strength basket weave tape with BUTTON HOLE CENTER. The same Nylon filling and Nylon edges, the same whorl hugging characteristics with greater strength for heavier operations.

RUSSELL Button Hole is the only heavy type tape to eliminate windage. Two Button Holes every inch insure positive air escape.

Prove that you can maintain constant speeds, that windage can be practically eliminated, that RUSSELL Tape won't wear out in the center, nor fray at the Nylon edges. See below how inexpensive it would be to equip a test frame with RUSSELL Nylon Spindle Tape. Tear off the coupon and mail it today.

NEW LOW PRICES

TEAR OUT & MAIL TO SUPER MARKET OF THE Textile Industry

Atkinson, Haserick & Co.
211 CONGRESS ST., BOSTON 6, MASS.
SOLE AGENT

PRICE PER 100 YARDS

THIN BLUE LINE		HEAVY BUTTON HOLE	
5/8"	$2.83	5/8"	$3.95
		3/4"	$4.58

I am anxious to make my own tests. Send us.....yds. of .....in. width RUSSELL Thin Spindle Tape with the Air Escape Center. Send us..... yds. of.....in. width RUSSELL Heavy Spindle Tape with the Button Hole Center.

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STREET _____

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BUSINESS ESTABLISHED 1823
Textile Machinery Agents and Engineers
211 Congress Street Boston 6, Mass.
BRADFORD, ENGLAND, 8 CURRER STREET

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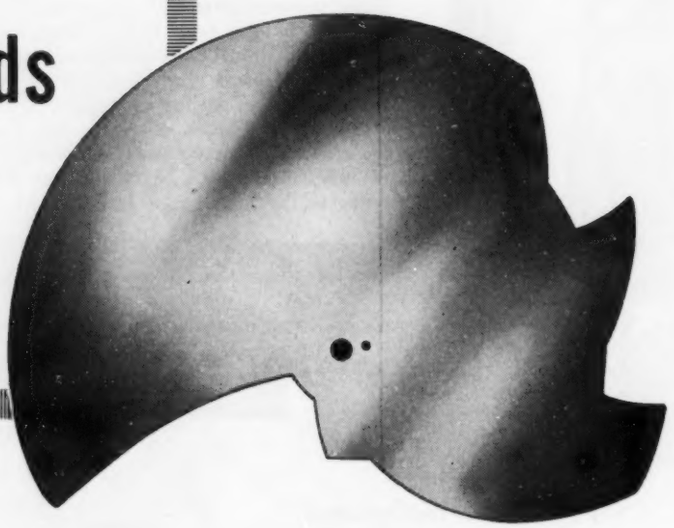
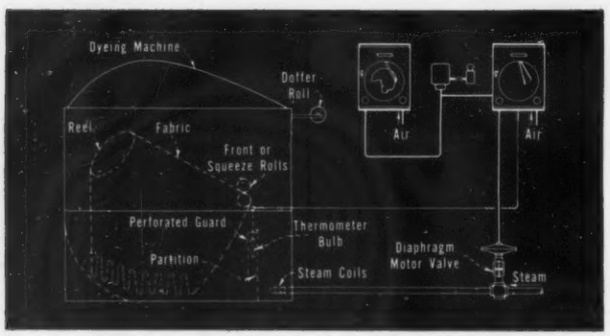
WILLIAM AYRTON & CO. LTD.
PLUTTE, KOECKE & CO.
THE CENTRIF-AIR MACHINE CO., INC.

You *Cut* This Cam to Fit Your Piece Goods Dyeing Cycle



...with the BROWN Time-Temperature Control System



▲ *This is one of several Brown Piece Goods Dyeing Control Systems. Others are designed for less complex cycles and feature controlled rate of rise and adjustable holding period.*

Here's the utmost in simplicity . . . even for complex dyeing cycles . . . and with a minimum of equipment. Simply cut a soft aluminum cam to fit your cycle.

Outstanding advantages of this Brown Time-Temperature Control System for Piece Goods Dyeing are:—

Facilitates Shade Matching . . . by providing precise duplication of the prescribed cycle for each successive dyeing.

Saves Man-Hours . . . permits the operator to leave the machine—audible signal attracts his attention at end of cycle.

Saves Steam . . . keeps temperature on the line—no over-shooting.

Allows Unprecedented Flexibility . . . can be applied to nearly any conceivable dyeing cycle, merely by cutting a cam to obtain the desired results.

Call in your local Brown engineer for free consultation and advice . . . or write for a copy of Data Sheet #8.1-20.

MINNEAPOLIS-HONEYWELL REGULATOR CO.
BROWN INSTRUMENTS DIVISION
4492 Wayne Avenue, Philadelphia 44, Pa.

Offices in 73 principal cities of the United States, Canada and throughout the world

BROWN INSTRUMENTS — WORLD'S LARGEST ORGANIZATION FOR ADVANCED INSTRUMENTATION AND CONTROL — BELFIELD VALVES

MINNEAPOLIS Honeywell — *Advanced Instrumentation* FOR THE TEXTILE INDUSTRY — BROWN INSTRUMENTS

AMACEL* COLORS
answer the demand for better color fastness
in synthetic textiles.

Amacel

YELLOW GLF

YELLOW 4RLF

YELLOW CW

Latest additions to the popular range of AMACEL colors
for dyeing all types of Acetate. Finely dispersed dyestuffs offering excellent
fastness to light, gas fading, sublimation and decatizing.
Amacel Yellow CW, in particular, offers excellent wash fastness and is extremely well
suited for dyeing combination shades with a minimum of selvedge shading.

American Aniline was the first successful U.S. producer of dyes
designed especially for acetate fibres,
and high quality has kept *Amacel* colors at the top in this field.

For detailed information on the whole range available, as well as
data regarding your own particular requirements, consult our nearest branch.
A.A.P. technicians are always happy to be of service.

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50 Union Square, New York, N. Y. • **Plant: Lock Haven, Pa.** • **Branches:** Boston, Mass.
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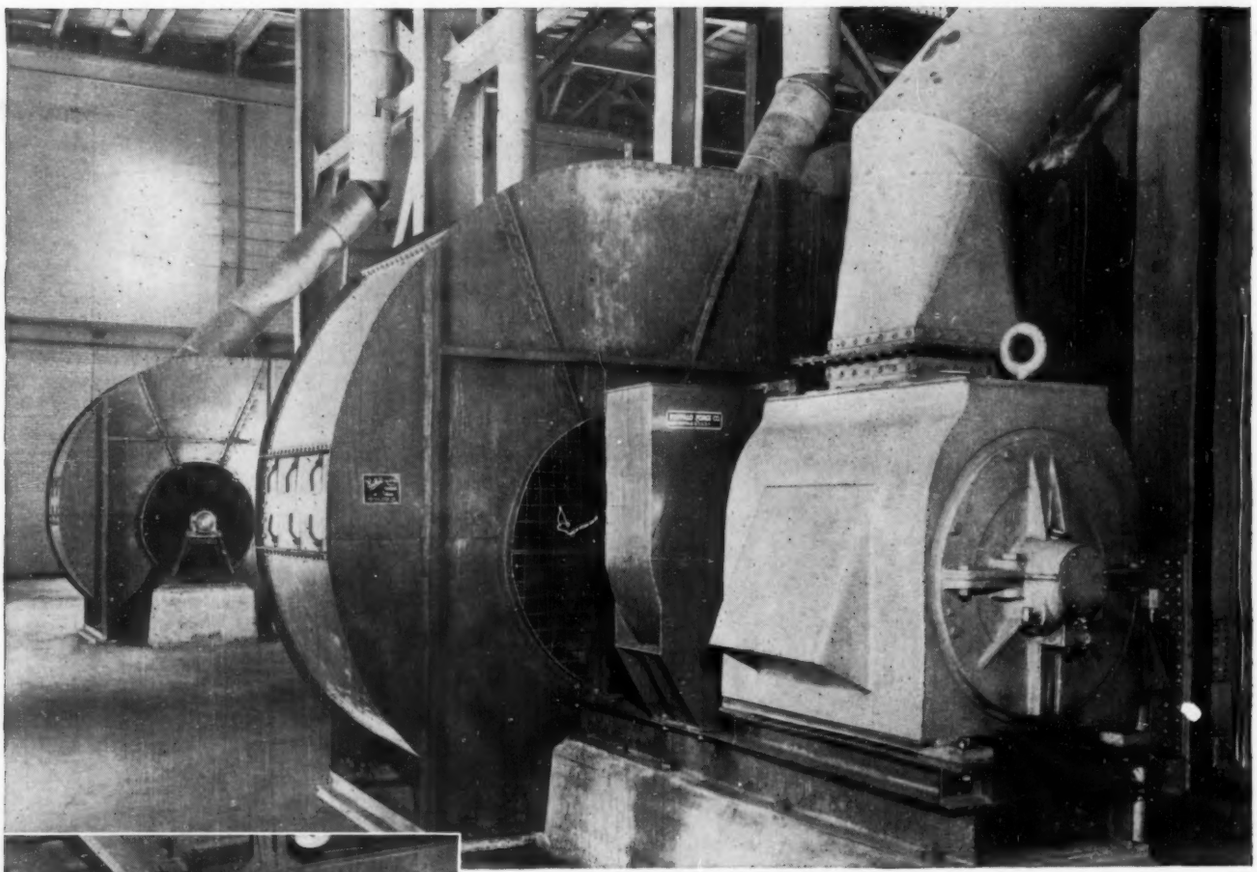
*Reg. U. S. Pat. Off.



TOP, Buffalo Forced Draft Fans in large central station steam plant.

ABOVE, part of a battery of Buffalo Induced Draft Fans giving continuous, dependable boiler service.

"Buffalo" POWER PLANT FANS

Can Reduce Your Costs, Too!

"Buffalo" Forced and Induced Draft Fans like these shown are setting real endurance records in boiler rooms all over the country. Their freedom from long, costly shut-downs, their economical use of driving power, their reliable performance under varying loads, all add up to cheaper steam and power production.

If you're interested in lower unit costs on the finished product, why not do as so many profit-minded operators have done? Start with boiler room costs — cut them with "Buffalo" longer-lasting Draft Fans. WRITE FOR BULLETINS 3190-B and 3113-B — or call in your trained "Buffalo" representative for the complete story.

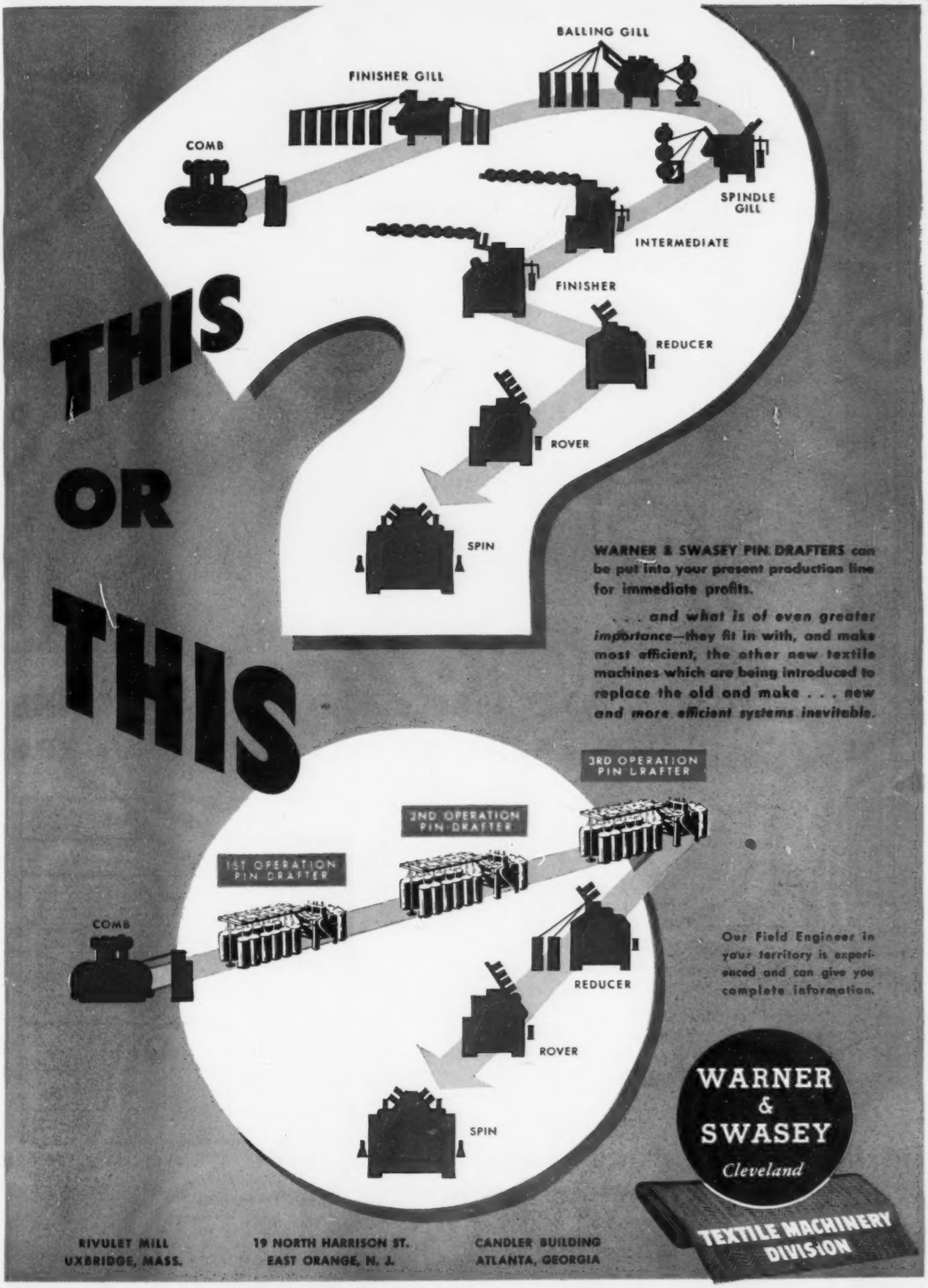
"Buffalo" FIRST FOR FANS

BUFFALO FORGE COMPANY

175 MORTIMER ST. BUFFALO, N. Y.

Canadian Blower & Forge Co., Ltd., Kitchener, Ont. Branch offices in all Principal Cities

VENTILATING FORCED DRAFT | AIR WASHING COOLING | AIR TEMPERING HEATING | INDUCED DRAFT EXHAUSTING PRESSURE BLOWING



WARNER & SWASEY PIN DRAFTERS can be put into your present production line for immediate profits.

. . . *and what is of even greater importance*—they fit in with, and make most efficient, the other new textile machines which are being introduced to replace the old and make . . . new *and more efficient systems inevitable.*

Our Field Engineer in your territory is experienced and can give you complete information.

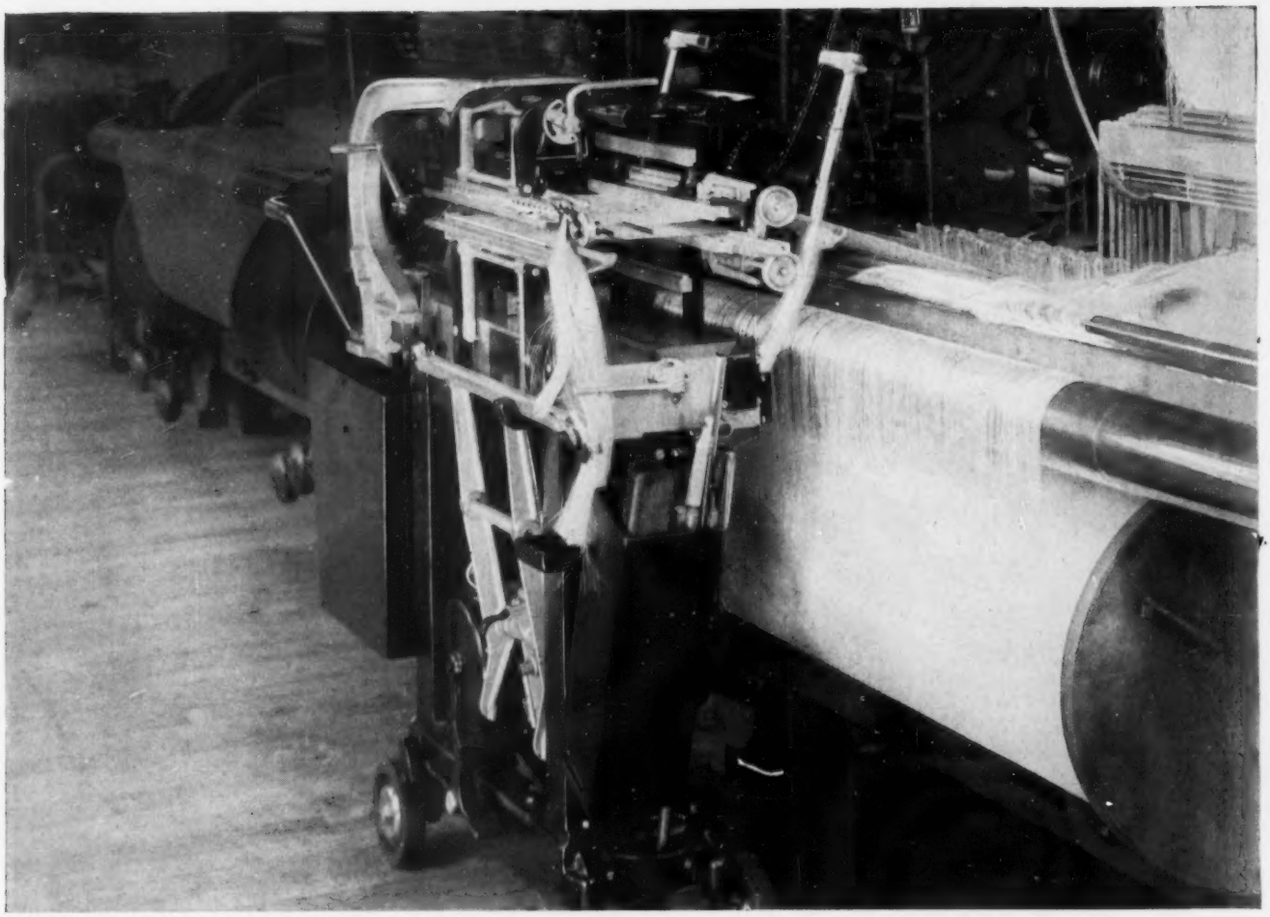
WARNER & SWASEY
Cleveland
TEXTILE MACHINERY DIVISION

RIVULET MILL
UXBRIDGE, MASS.

19 NORTH HARRISON ST.
EAST ORANGE, N. J.

CANDLER BUILDING
ATLANTA, GEORGIA

YOU CAN DO IT BETTER, FASTER, FOR LESS...WITH A WARNER & SWASEY



BARBER-COLMAN PORTABLE WARP TYING MACHINE SPEEDS REPLENISHMENT OF SYNTHETIC WARPS

BARBER COLMAN

The reduction of loom down-time is an important factor toward successful competition in the textile business. The less a loom is idle, the more goods it can produce; the greater the mill production, the more economical that production becomes. The Barber-Colman Portable Warp Tying Machine has proved its ability, in hundreds of mills, to reduce loom down-time required for replenishment of warp. One model of this machine (Model LS) is specially designed for synthetic yarns — and is also extremely efficient on wool, worsted, mohair, and other difficult yarns. The speed of the machine is illustrated in the example of mill data in the table at the right. The machine works directly back of the loom, as illustrated above, and is so compact that it can be operated in narrow loom alleys. Your Barber-Colman representative is qualified to discuss details of the possibilities for this machine in your mill — get in touch with him at the next opportunity.

DATA FROM A MILL
VISCOSE YARN
Number of ends on Beam — 5,714 160 sley by 68 picks 150/40/1-1/8 Viscose 6 Harness, 4 banks of Drop Wires
Average ends per hour tied — 5,761, on B-C Model LS Portable Warp Tying Machine. This includes preparation, tying-in, and pulling through.

AUTOMATIC SPOOLERS • SUPER-SPEED WARPERS • WARP TYING MACHINES • DRAWING-IN MACHINES

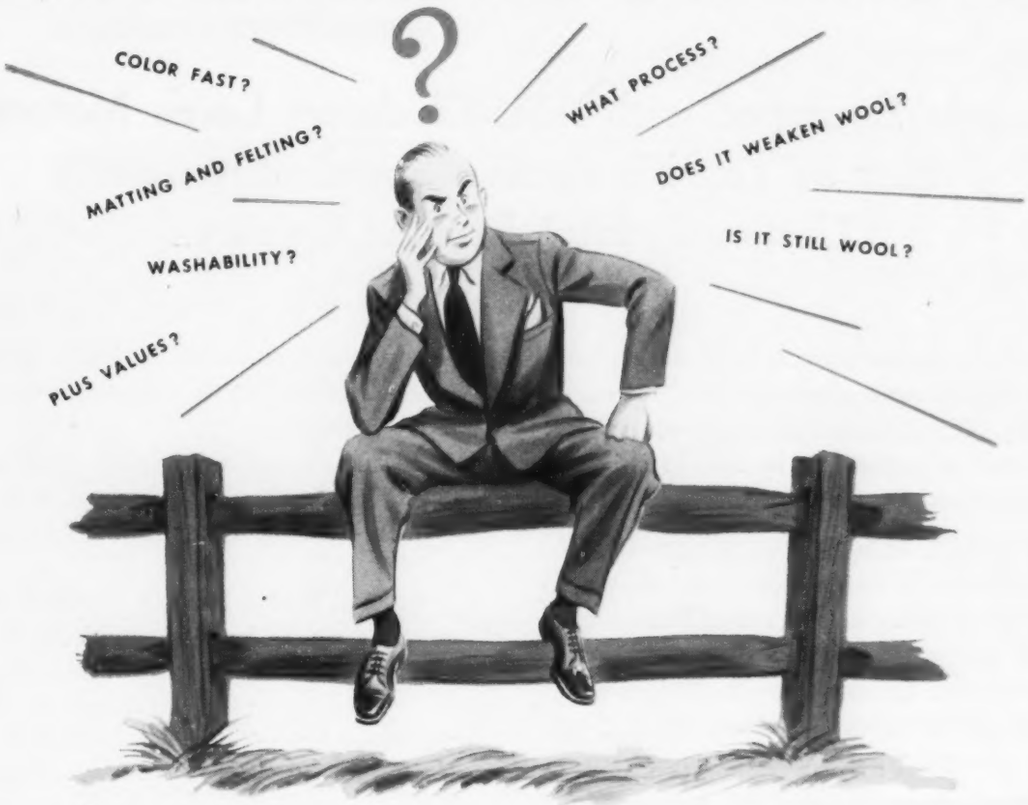
BARBER-COLMAN COMPANY

ROCKFORD • ILLINOIS • U. S. A.

FRAMINGHAM, MASS., U. S. A. GREENVILLE, S. C., U. S. A. MANCHESTER, ENGLAND

Are YOU – 'On the Fence'

about wool shrinkage-control and washability?



WASHABLE GARMENTS ARE FAST BECOMING A MUST IN ALL THINGS WOOLEN

You, as a Producer of Woolen or Worsted Yarns, Fabrics, or Garments, cannot afford to miss the Passing Parade—BUT—What Process should you specify or use ????????

Wool, as you know, is a "live" fibre.

Great care must be exercised in every processing of it, especially wet processings, so that the treatment applied, to incorporate the additional desirable values, does not rob, reduce, or destroy its desirable properties, i. e., tensile strength, resiliency, elasticity, recoverability, elongation, hand or feel, and weight,—the *natural* properties make wool the wonderful fabric that it is.

"Schollerizing*" maintains or enhances all of these properties—and controls permanent shrinkage to less than 2%.

What more could be asked of any Process ?????

A test on your product is convincing.

*U. S. & Foreign Patents Pending

Write Today for Full Details On the Amazing Scholler Wool Shrinkage-Control Process applied to your product.

Schollerized
WASHABLE WOOL
SAFE TO TUB • SAFE TO RUB

Application of Schollerizing is simple and flexible... it can be applied at any stage of manufacture.

SCHOLLER BROTHERS, INC.

Manufacturers of Scouring, Dyeing and Finishing Materials

COLLINS at WESTMORELAND, PHILADELPHIA 34, PA.

IN CANADA: SCHOLLER BROTHERS, LTD., ST. CATHARINES, ONTARIO

SERVING THE TEXTILE INDUSTRY FOR MORE THAN FORTY YEARS

This Loom Motor

Looms Equipped with Allis-Chalmers Loom Motors Run at Top Production Speed—Produce Uniformly High Product Quality

HERE'S A LOOM MOTOR built to give you higher production and better product quality. It's the result of over one-third of a century of experience by A-C in building motors especially for the textile industry.

HERE'S PROGRESSIVE DESIGN

Allis-Chalmers Loom Motors are designed with anti-friction grease-lubricated ball bearings which are packed and sealed by the bearing manufacturer. Oil lubrication is eliminated and you get greater cleanliness around looms, therefore, your maintenance costs go down.

BEARINGS REQUIRE NO ATTENTION

Because bearings are sealed with the right amount of the right kind of grease, they run for many years without any attention. There's no cost for lubrication or lubricant over long periods of operation.

When you expand or modernize your mill, specify Allis-Chalmers Loom Motors for top production, trouble-free operation.

Quick Clean Textile Motors

Especially designed for textile mill use, these Allis-Chalmers motors have wide open air passages, smooth internal surfaces and efficient fans that blow out lint and dirt. They will not clog or overheat. Sealed bearings protect surroundings from grease, require no attention for years. Sizes to suit the usual requirements of spinning frames, twisters, etc.

Lowest Cost Instant Speed Control — New Vari-Pitch *Automatic Sheave — Shows Great Savings In Textile Mills*

Textile men everywhere are proving in their own mills that Texrope automatic sheaves boost productive machine time and cut costs by making instant speed control available for all types of machines at lower cost than ever before. Speed is changed in seconds by simply moving motor. One hand does it and belt tension is automatically maintained. 1½ through 60 hp, 2 to 1 speed variation.

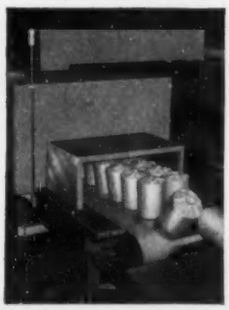
Originator of the Multiple V-Belt Drive for the Textile Industry

ALLIS-

...Built for You!

ALLIS-CHALMERS TEXTILE MOTORS

HIGH SPEED TWIST SETTING AND CAKE DRYING WITH DIELECTRIC HEAT



Allis-Chalmers dielectric heaters drastically cut drying time, save space, reduce stock in process and improve quality in rayon cake drying and twist setting operations as well as in many other textile heating and drying processes. Engineering and cost studies made without obligation.

Ask For Free Bulletins

ALLIS-CHALMERS, 1054A SO. 70 ST.
MILWAUKEE, WIS.

☐ 5187111 Loom Motors ☐ 2087223 Vari-Pitch Automatic Sheave
☐ 2086051 Texrope Drives ☐ 1586431 Dielectric Heaters
☐ 25BC150 Power Generating Equipment, Transformers, Circuit Breakers, Power Distribution Equipment.

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Title.....

Address.....

City.....State.....

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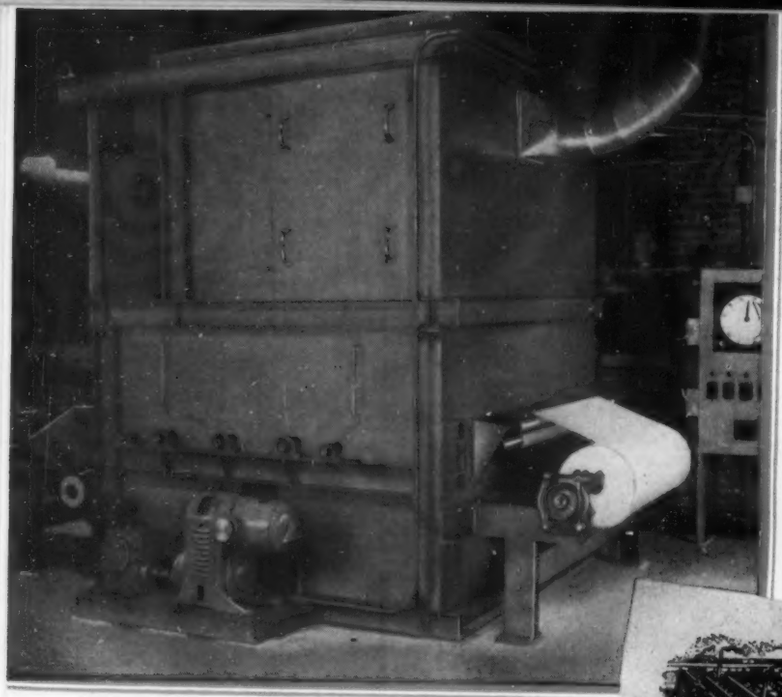
Texrope and *Vari-Pitch* are Allis-Chalmers trademarks.

CHALMERS

This is the new

VAN VLAANDEREN NYLON HEAT SETTING MACHINE



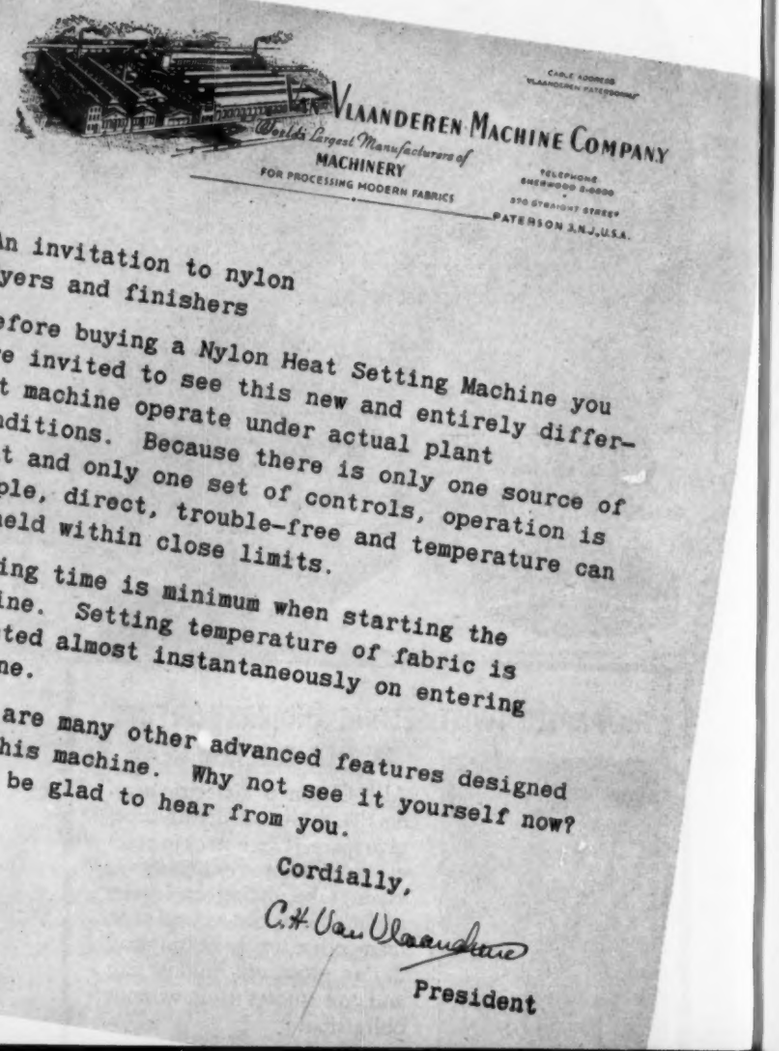
Van Vlaanderen Nylon Heat Setting Machine in actual plant operation.

IT'S DONE WITH BALANCED-FLOW, HEATED AIR. That makes the Van Vlaanderen Nylon Heat Setting Machine different—and, we believe, better.

CIRCULATED, HEATED AIR, permeating every fibre of the goods, uniformly and instantaneously effects setting—without any part of the machine or goods ever exceeding the setting temperature. This method results in better set fabrics; stable in dimensions, free from sagging, shrinking or stretching and having great resistance to wrinkling.

CIRCULATED, HEATED AIR permits simpler design and easier, more reliable control; less possibility of mechanical failure and (of great interest to the finisher) lower initial and operating costs.

CIRCULATED, HEATED AIR is, in our considered opinion, the most satisfactory of the various methods of heat treatment.



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VLAANDEREN MACHINE COMPANY

World's Largest Manufacturers of MACHINERY FOR PROCESSING MODERN FABRICS

TELEPHONE SHERWOOD 5-6000

370 STRAIGHT STREET PATERSON 3, N.J., U.S.A.

An invitation to nylon dyers and finishers

Before buying a Nylon Heat Setting Machine you are invited to see this new and entirely different machine operate under actual plant conditions. Because there is only one source of heat and only one set of controls, operation is simple, direct, trouble-free and temperature can be held within close limits.

Waiting time is minimum when starting the machine. Setting temperature of fabric is effected almost instantaneously on entering machine.

There are many other advanced features designed into this machine. Why not see it yourself now? I will be glad to hear from you.

Cordially,

C. H. Van Vlaanderen

President

VAN VLAANDEREN MACHINE COMPANY

370 Straight Street, Paterson 3, New Jersey • Cable address: Vlaanderen: Patersonnj. U.S.A.

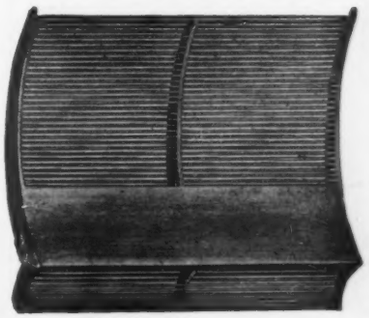
World's largest manufacturer of machines for processing modern fabrics

Minimize Wear on all 7

Hundreds of leading spinning mill superintendents today rate Jenkins Dynamically Balanced Cylinders as a major means of keeping production costs under control. By replacing crooked and unbalanced cylinders with "proved performers," they eliminate the vibration that keeps replacement costs and yarn quality in a constant state of fluctuation.

Let one of our engineers explain how Jenkins precision made, dimensionally balanced products can help you reduce costs, or improve yarn quality . . . or BOTH.

JENKIN'S *Dynamically Balanced* SPINNING CYLINDERS



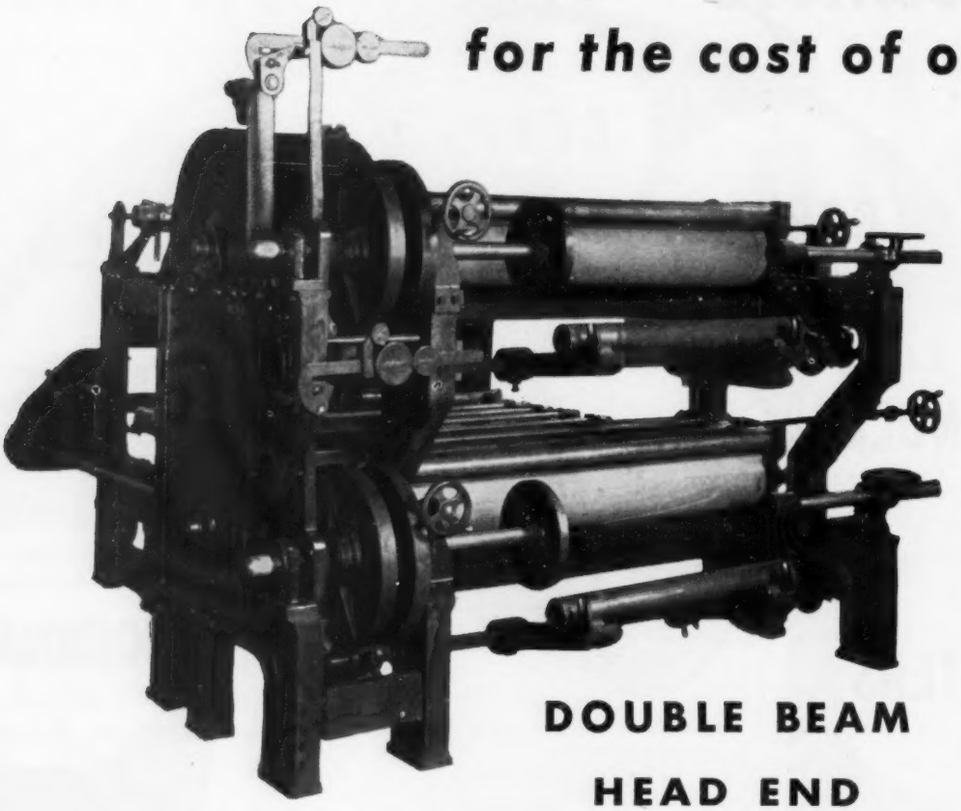
COUNT YOUR SAVINGS—ONE by ONE

You'll find Jenkins is Best and Cheapest, in the Long Run.

JENKINS METAL SHOPS *Incorporated*

GASTONIA, NORTH CAROLINA

RUN TWO BEAMS
for the cost of one



DOUBLE BEAM HEAD END

W.P.F.&M.
MANUFACTURERS OF:

Conventional Slasher Machinery

Slasher Modernization Equipment

Size Boxes, Kettles and Special Equipment

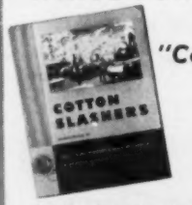
Special Textile Machinery and Repair Parts

Loom Beam, Barrels and Beam Heads

This unit is designed to fully utilize the drying capacity of your slasher cylinders. It is particularly applicable when it's necessary to run light sets on standard width slashers.

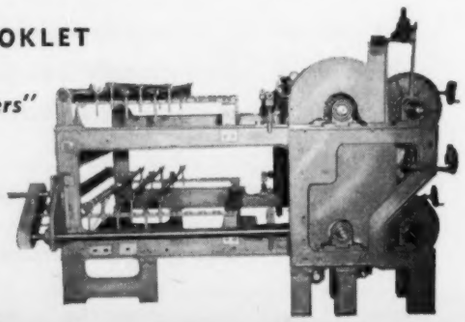
Two loom beams, up to 26″ diameter and 44″ between heads, can be run simultaneously—almost doubling the output of your present slasher equipment. Beams, rigidly supported on a double frame, are driven by lever friction. All journals are equipped with ball bearings for smoother, more efficient operation.

WRITE FOR FREE BOOKLET



"Cotton Slashers"

It describes the above unit and other special Slasher equipment produced by W.P.F.&M.



Manufactured by

WEST POINT FOUNDRY & MACHINE CO.
WEST POINT, GEORGIA

Vat COLORS for rayons

The stabilized rayons now available make fast colors a "must" for customer satisfaction. Du Pont Ponsol* and Leucosol* . . . anthraquinone-type dyes . . . and Sulfanthrene* . . . thioindigoid and related dyes . . . produce superior light and wet fastness on rayons.

Du Pont Continuous Pad Steam method is an excellent way to produce a wide range of attractive shades of outstanding fastness and uniformity.

Investigate the selection and application of these dyes. Our Technical Staff will be glad to help you.

E. I. du Pont de Nemours & Co. (Inc.), Dyestuffs Div., Wilmington 98, Del.

*REG. U. S. PAT. OFF.

Du Pont Dyestuffs

DU PONT
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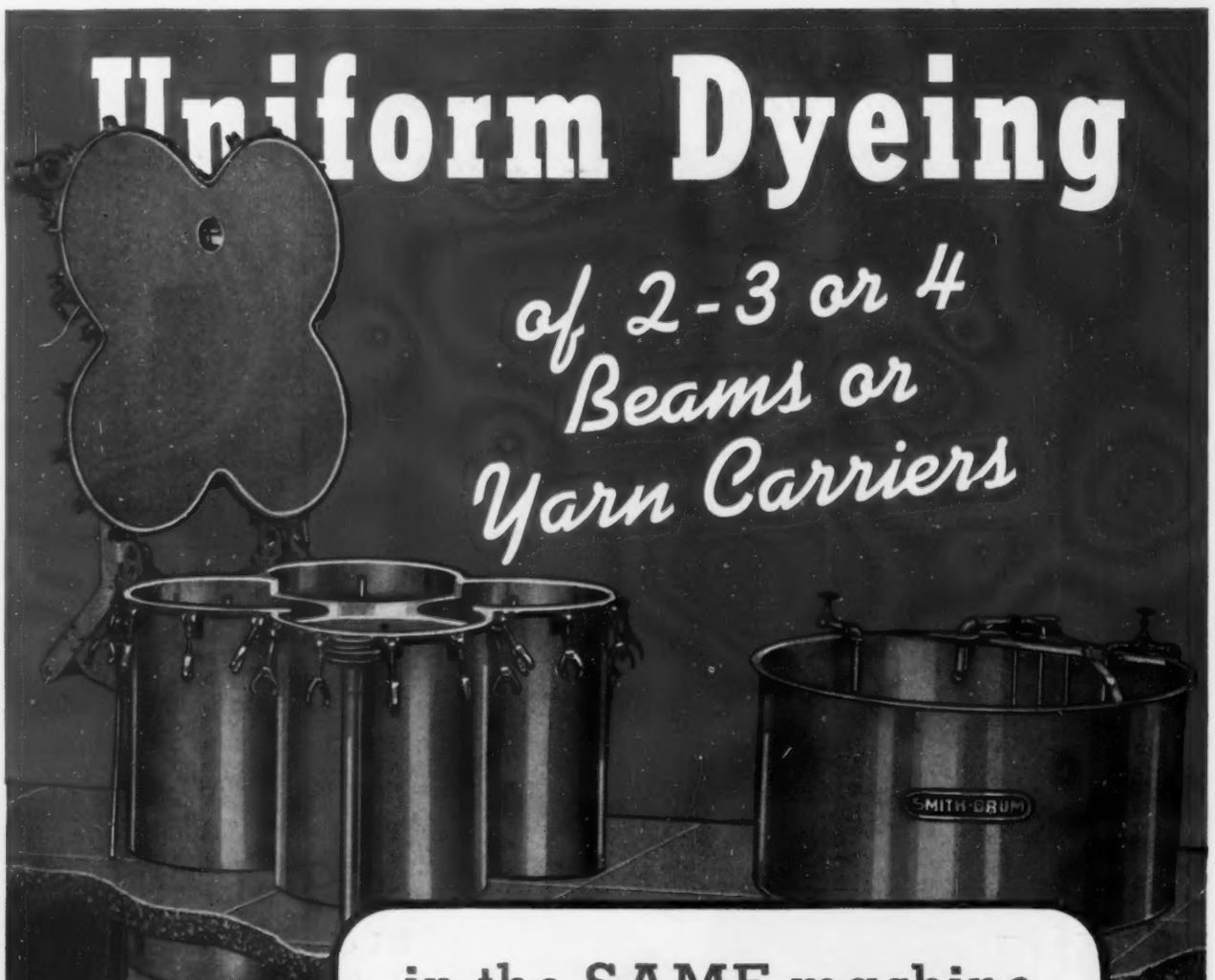
BETTER THINGS FOR BETTER LIVING . . . *THROUGH CHEMISTRY*

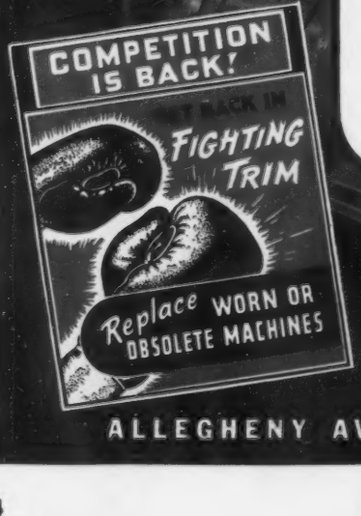
Uniform Dyeing

of 2-3 or 4 Beams or Yarn Carriers



in the SAME machine

The SMITH-DRUM "Cloverleaf" Combination Beam and Package Dyeing Machine is a revolutionary development which permits the dyeing of *two, three* or *four* beams or yarn carriers in the *same* dye bath, at the *same* time, under the *same* operating conditions, with the *same* liquor ratio. This assures *absolute uniformity* in dyeing because each beam or yarn carrier is processed under identical pressure, temperature, flow and with uniform distribution of additions to the dye bath. If all kiers are not in use, pressure and flow may be adjusted so that they remain the same as when dyeing a full load. All machines are equipped with valves to permit extraction with air before the yarn is removed from the dye tank. Catalog on request.

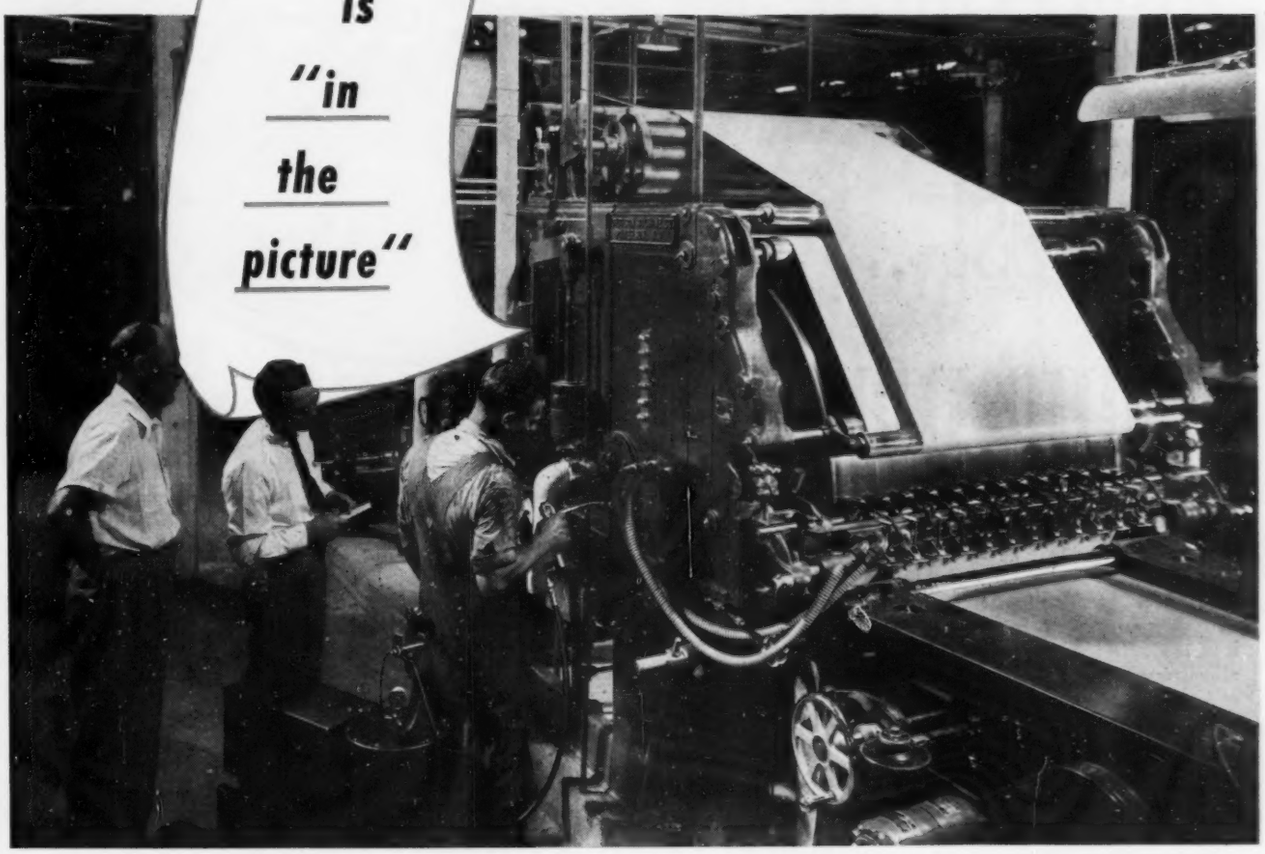


SMITH, DRUM & COMPANY

ALLEGHENY AVENUE AT 5th STREET, PHILADELPHIA 33, PA.

LOWER MAINTENANCE EXPENSE IN THE FINISHING PLANT

when the GULF LUBRICATION ENGINEER is "in the picture"



Proper lubrication smooths the way to lower maintenance costs for every type of textile equipment, insures better performance. If you feel there is room for improvement in your lubrication practice, enlist the cooperative services of a Gulf Lubrication Engineer.

With a background of thorough training and broad practical experience, he can be of real assistance to you.

He will recommend the lubricants and application methods exactly suited to your equipment and operating conditions. Then, periodically, he will check the performance of each machine and suggest any changes that are necessary to provide for new conditions.

This kind of lubrication service has a real dollar and cents value to you. Write, wire, or phone your nearest Gulf office today and ask the Gulf Lubrication Engineer to call.

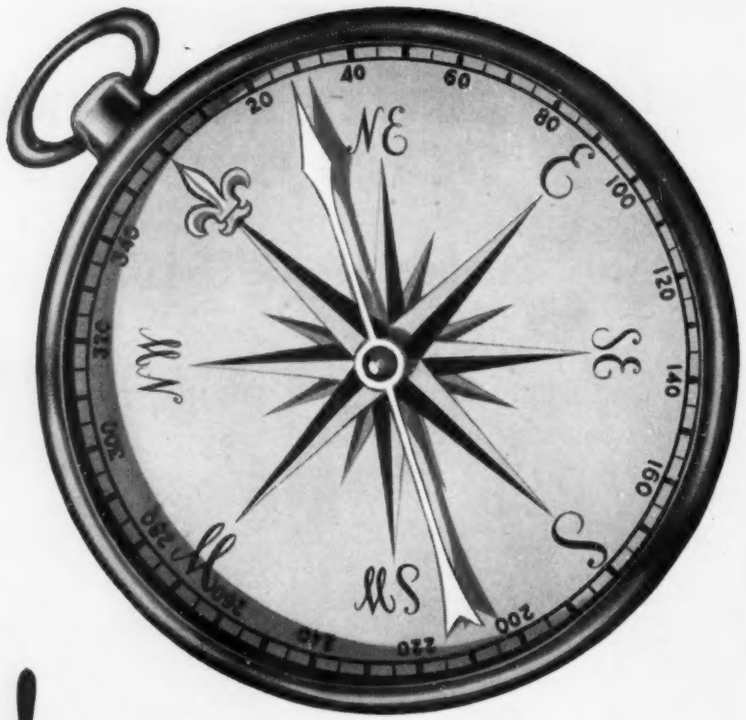
GULF MAKES AVAILABLE TOP QUALITY PASSENGER AND TRUCK TIRES — ASK YOUR GULF REPRESENTATIVE

Gulf Oil Corporation · Gulf Refining Company

Offices in Principal Cities in 30 States

GULF INDUSTRIAL LUBRICATION

Go North, East, South *or* West... young man!



THE BETTER WE PRODUCE, THE BETTER WE LIVE

"Go West, young man, and grow up with the country." Horace Greeley said it in 1854. He was right . . . but he was also wrong. He was wrong because *all* of America turned out to have room for development then undreamed of.

Let's look at the record:

Here's what's happened all over America just during the last 40 years.

Income: Since 1910 we have increased our annual income per household from an average of less than $2400 to about $4000 (in dollars of the same purchasing power), yet—

Work hours: Since 1910 we have cut work hours down an average of 18 per week—equivalent to more than two present work days.

How did we do this? Through—

Machine power: We have increased the supply of machine power *4½ times* since 1910. This increased machine power gave us—

Increased productivity: This made it possible for us to more than *double* the output of each of us for every hour we work.

The best is yet to come

This is what we have done, and this is the way we have done it—to get higher wages, shorter hours, and lower-cost goods for everybody.

And this is the way we can make a still better living in the future—with *greater* use of machine power, *better* machines, *better* distribution, *better* collective bargaining.

Sure, our system still has faults . . . but none that we cannot cure if we all work together to do it.

Approved for the Public Policy Committee of The Advertising Council by:

EVANS CLARK
Executive Director, Twentieth Century Fund

PAUL G. HOFFMAN
Formerly President, Studebaker Corporation

BORIS SHISHKIN
Economist, American Federation of Labor

FREE *Send for this valuable booklet today!*

Approved by representatives of Management, Labor and the Public

In words and pictures, it tells you

- How our U. S. Economic System started
- Why Americans enjoy the world's highest standard of living
- How mass production began
- How we have been able to raise wages and shorten working hours
- Why the mainspring of our system is productivity
- How a still better living can be had for all

MAIL THE COUPON

to Public Policy Committee, The Advertising Council, Inc., 25 West 45th St., New York 19, N. Y.

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Like many American firms, we believe that business has a responsibility to contribute to the public welfare. This advertisement is therefore published in the public interest by:

TEXTILE INDUSTRIES

Another Profitable Tip To Mill Men

HYATT

ROLLER BEARINGS

The slight extra cost for these loom proven bearings is soon paid for by the economies they effect in operation and the higher quality cloth which results. Ask us to furnish you with reasons why Hyatts are worth what you pay for them many times over. Write to

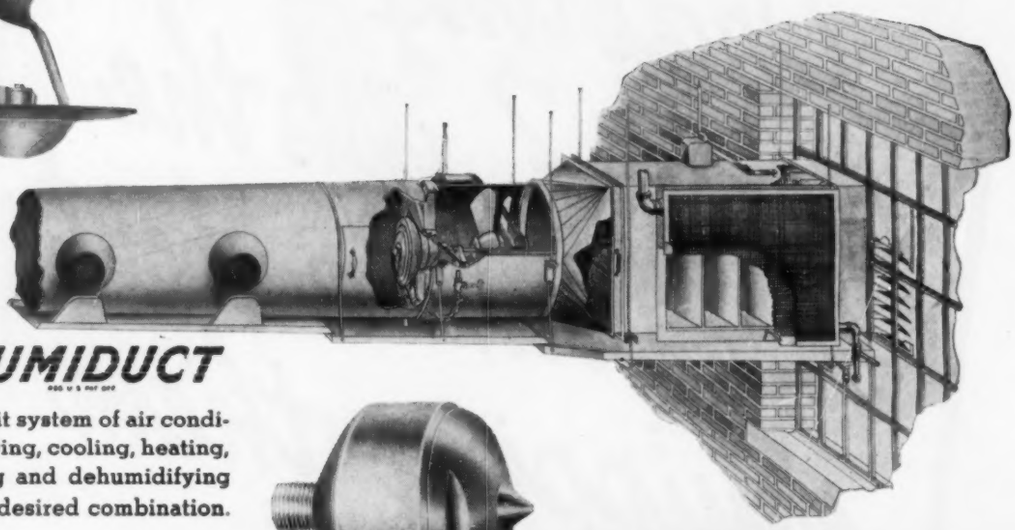
HYATT BEARINGS DIVISION • GENERAL MOTORS CORPORATION • Harrison, New Jersey

INDUSTRIAL AIR CONDITIONING

DESIGNED • ENGINEERED • MANUFACTURED • INSTALLED • SERVICED by Bahnson

Centrifugal Humidifier

A self-contained unit offering high evaporative capacity plus directional air flow at low operating cost—for single or multiple installation with individual or master control. Simple installation requires water line, drain and electric current.



HUMIDUCT

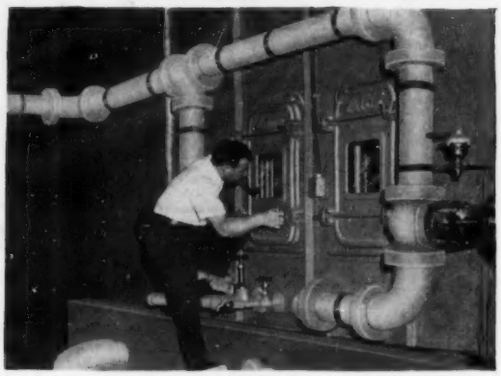
A self-contained unit system of air conditioning for humidifying, cooling, heating, ventilating, filtering and dehumidifying—available in any desired combination.

Economizer

A self-cleaning pneumatic atomizer, interchangeable with standard aspirating types, offering notable savings in compressed air when operating at similar air pressure, rate of evaporation, and spray quality.

THE BAHNSON COMPANY has specialized for 33 years in the design, engineering, manufacture, installation and service of industrial Air Conditioning Equipment—tailored for the specific requirements of varied needs in the Textile Industry.

Write for Bulletin No. 333



Air Washer Systems

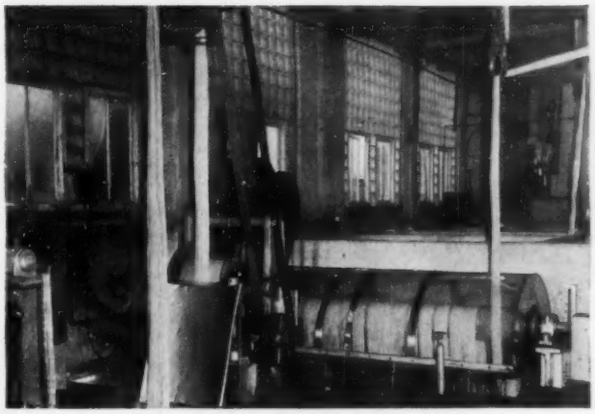
Bahnson installations range in size from small laboratory units to systems handling 1000 tons of refrigeration and Bahnson air washers handling 275,000 c. f. m.

Bahnson System
AIR CONDITIONING ENGINEERS
POSITIVE CIRCULATION · LOWER OPERATING COST
THE BAHNSON CO WINSTON-SALEM, N. C.

886 Drewry St., Atlanta, Ga. 93 Worth St., New York City 703 Embree Crescent, Westfield, N. J. 553 S. Figueroa St., Los Angeles, Cal.
W. J. Westaway Co., Ltd., Hamilton, Ontario A-3 Virginian Apts., Greenville, S. C.

L. E. Oliver, Bleachery Supt., Exeter Mfg. Co., says:

"We're getting much better control, greater efficiency and substantial cost reduction with our Du Pont systems"



"We are receiving from our Du Pont Bleaching Systems a control over our products which we never could have hoped for on the old system. Also, we have a much better efficiency rate per hour, and therefore a substantial reduction in labor cost."

• • •

Exeter has two Du Pont systems—a rope system installed in July 1948 and an open-width system which went into operation early this year. With these systems they expect to put through approximately 50 to 60 million yards of cloth annually, ranging from the sheerest of cotton fabrics to very heavy ducks. This range will include shirting, dress goods, rainwear, surgical trade, linen supply, work clothing, drapery and slip cover materials, bias binding, etc.

• • •

All over the country the Du Pont Continuous Peroxide Bleaching System is gaining increasing recognition as the right answer to modern bleaching needs. It's continuous, it's speedy, and it permits quality production. What's more, it's most economical, and is adaptable to mill requirements.

TO BLEACH MORE GOODS FASTER AT LOWER COST

There's a Du Pont System to meet your specific requirements. Du Pont technical service men will help you select equipment and start up your process. Just write E. I. du Pont de Nemours & Co. (Inc.), Electrochemicals Dept., Wilmington 98, Delaware.

DU PONT
CONTINUOUS PEROXIDE BLEACHING

DU PONT
REG. U. S. PAT. OFF.

BETTER THINGS FOR BETTER LIVING
...THROUGH CHEMISTRY

E. I. du Pont de Nemours & Co. (Inc.)
Electrochemicals Department, Wilmington 98, Del.

Please send me more information about Du Pont Continuous Peroxide Bleaching Systems.

Name_____ Title_____

Firm_____

Street & No._____

City_____ State_____

Marquette ROLLER BEARING SPINDLES *with* FULL-FLOATING FOOTSTEP BEARING

For Cotton, Rayon, Nylon, Wool, Worsted

This mill has purchased more than 100,000 Marquette Roller Bearing Spindles—the majority as replacements, and the others on new frames. They are throwing nylon and rayon at speeds up to 13,700 r.p.m. with bobbins of ½ to 1½ pound capacity.

By operating at higher speeds, with larger packages and reduced power consumption, this mill is getting **more yarn at lower cost.** You too can modernize your old frames with Marquette Roller Bearing Spindles . . . or you can specify them on new frames. For a test installation, contact our home office or one of our representatives.

PROTECTED BY U. S. AND FOREIGN PATENTS, AND PATENTS PENDING

The Marquette METAL PRODUCTS CO.

CLEVELAND 10, OHIO

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Vol. 113
No. 12

Textile Industries

December
1949

Southern Finishers Arrived Long Ago

—Now the Figures Prove It

THE DEPARTMENT of Commerce has recently released figures which will prove interesting to some of the old-timers in the dyeing, bleaching, printing, and finishing business of the South. The figures should also serve as a warning to sections of the country which think they have a monopoly on any type of textile processing.

These figures are based on 1948 and show where the cotton and rayon woven goods are finished. They are broken down into classifications of bleached and white finished, dyed and finished, and printed and finished.

Of the total cotton and rayon woven goods finished, rayon woven goods* constitute approximately twenty-two per cent. New Jersey continues to have the lead in this field, followed by New York.

SOUTH CAROLINA led all states in yardage in the finishing of cotton fabrics, and in the cotton "printed and finished" classification this state processed more than twice the yardage of any other state.

Massachusetts ranked second in cotton finished goods, and North Carolina was third, with Rhode Island and New Jersey following in order.

In the "cotton woven goods finished" classification, the yardage was given for only six southern states by the Department of Commerce; these figures show that the states of Virginia, North and South Carolina, Georgia, Tennessee, and Alabama finish 43% of all the cotton goods which go through finishing processes.

This all takes us back to a bit of history. Years ago the opinion of the trade was that goods could not be finished properly in the South. The story goes that one selling agent, who evidently realized that a southerner could finish goods but who was cognizant of the prevailing trade opinion, told a southern finishing plant that its goods could be sold provided they were repacked in eastern-made cases. When this was done there was no further complaint.

This prejudice against southern finishing plants is gone.

Another complaint offered in the trade years ago was that the South did not have suitable water for finishing processes. Even this objection fell by the wayside. Evidently the water is okeh, too.

THE FIRST practical commercial bleaching and finishing in the South is said to have been in the Kerr Bleachery and Finishing Works at Concord, N. C., in 1890. Dyeing and finishing had been done previously in that section, but it was confined to privately operated plants in individual mills. Other early commercial finishing plants were the Lanett (Ala.) Bleachery and Dye Works (1895); the Ohio Falls Dye and Finishing Works at Louisville, Ky. (1897); the Clearwater (S. C.) Bleaching and Finishing Company (about 1899); and the Union Bleaching and Finishing Company at Greenville, S. C. (1903).

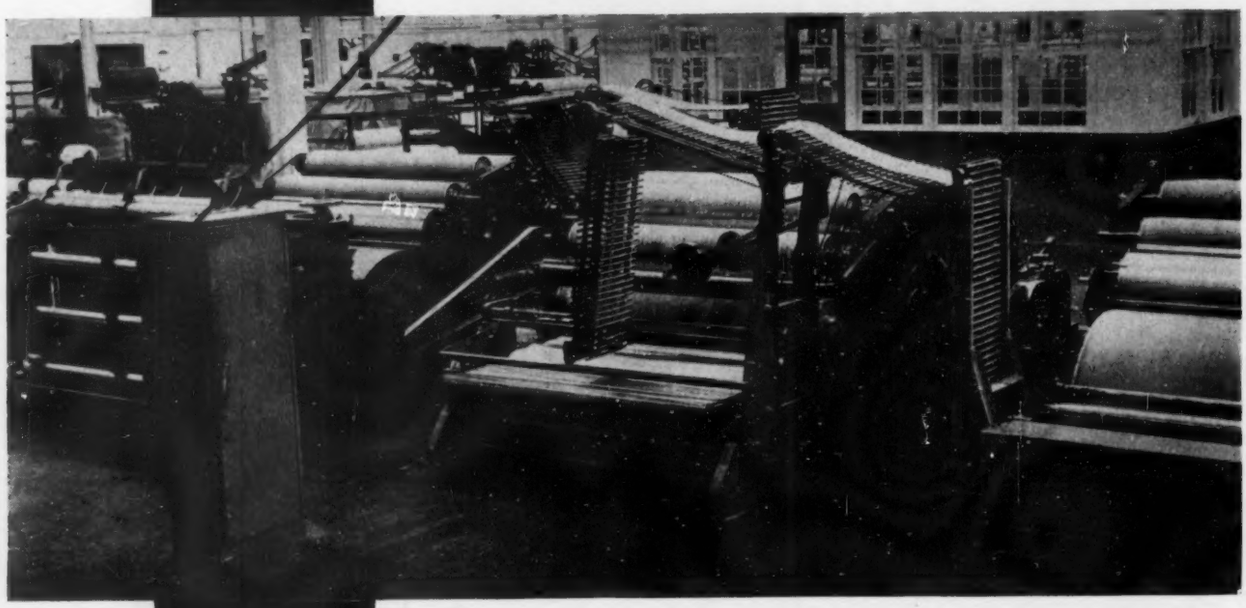
Since that time the building of finishing plants in the South has become the rule rather than the exception. In recent issues of this magazine descriptions have been given of new and modern southern mills which are self-contained finishing plants. Plans have been made for the construction of others. More and more southern mills have complemented their grey goods processing with finishing plants.

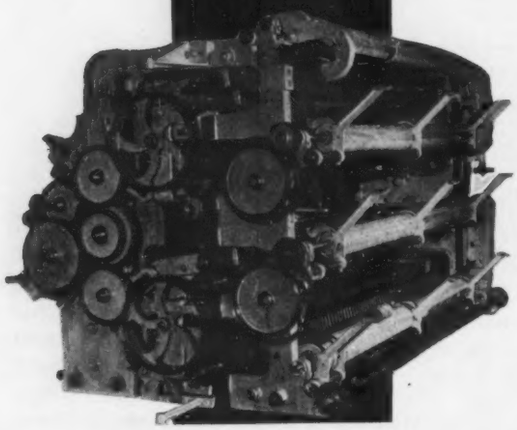
AND so today we find the stigma removed from southern finishing. A southern state leads in cotton goods finished, the South closely approaches the amount of yardage finished by the remainder of the country, and the trend in textile finishing follows the trend in textile manufacturing.

This is good news to the South's old-timers in the finishing game; they arrived long ago—now the figures prove it.—J. C. F.

*The broad classification of "rayon woven goods" in the figures released by the Department of Commerce includes rayon, silk, nylon, and other synthetic fiber fabrics.

200 GOOD ENDS FROM 80 INCHES WIDTH





Special design features of the Tape Condenser give positive and even division of the web—tapes do not steal from each other.

BUILDERS OF QUALITY MACHINERY SINCE 1886

NEWPORT NEWS WOOL CARDS TESTED AND PROVEN

1. Large doffers for better carding, resulting in stronger yarns at higher production rates plus less frequent machine outage for stripping.
2. Greater yield through minimum loss of stock.
3. Thorough blending, effecting better manipulation and more economical use of stock.
4. Wide range of speed adjustments at all points enabling the machine to accommodate all types of materials and make roving from the coarsest to the finest counts.
5. Carefully machined rolls, accurately mounted, permitting uniform close setting of workers and strippers.
6. Two intermediate side draw feeds which will handle long or short fibres.
7. Feed hopper of large capacity with a very accurate weighing mechanism.
8. Low overall height for unobstructed vision over the machine and ready removal of workers and strippers.

For Specific Details Write for Illustrated Folder

NEWPORT NEWS SHIPBUILDING AND DRY DOCK CO.

NEWPORT NEWS, VIRGINIA

NEWS in BRIEF

Criticism on Machinery Exports. Some American manufacturers of textile machinery and supplies have been criticized by textile mill management for selling a small percentage of productive equipment to the export market. Machinery manufacturers for the most part feel this criticism is unwarranted and unfair inasmuch as the textile plants sold, or attempted to sell, to the same market.

Mills Forget to Take Credit. Textile mills in many localities are doing so much for their communities that they forget many of the instances which would make news in local newspapers—thereby not getting public credit for the jobs done.

Steel Strike and Bale Ties. A shortage of bale ties due to strikes in the steel industry could possibly prevent packaging of approximately one-tenth of the total 1949 crop. The bale tie situation in Texas and Oklahoma has been especially serious. In the Carolinas the situation is normal.

Nylon in Propaganda. Russian propagandists in the East Zone of Germany are said to be making political capital of the claim that nylon factory work is poisonous for employees. They claim it is characteristic of the wicked capitalist system to use methods which bring disease and death to the operatives.

Depression! Where? Real consumer purchasing power this year is 50% above the 1940 level; civilian employment is 12 million above 1940; surplus income, over and above the increased cost of food and taxes, is 289% above 1940; there are over twice as many individual spending units with incomes over $2,000 as in 1941; productivity per capita is 34% above 1940; individual savings are three times the 1940 total.

Combat Bare Leg Fad. The suggestion has been made that hosiery producers get together and do something to solve the problem of the bare leg fad which has cut into sales volume. A recommendation was to the effect that manufacturers eliminate dye colors of light tans which resemble bare legs. The latter possibility could well take place during the winter months, when darker shades are fashionable, and then never return to lighter shades.

U. S. Rubber Co. Survey. A survey made at the Shelbyville, Tenn., plant of U. S. Rubber Company brought forth these facts: The average old-timer in the mill's employ is 44 years old, has two children and goes to church. Of employees with 10 or more years service, 34.4% own their homes and 54% now renting plan to buy. 21 was the most popular marrying age. The average long-service employee has nearly a thousand dollars in cash and bonds, carries over two thousand in life insurance.

Industrial Cooperation. Europe's textile industry will be given a lift through use of the double shuttle automatic looms, patent on which was held and recently released for this purpose by Collins & Aikman. With these looms the production can be doubled. The looms were developed by C & A just before the war, and this is the first time they have been made available to any one else.

Gaston is Leading Cotton Consumption County. Last year the cotton mills in Gaston County, N. C., consumed 430,000 bales of cotton. Second top user was Spartanburg County, S. C., and third was Bristol County, Mass., with 364,000 and 323,000 bales. Cotton consumption was top in Gaston in spite of the fact that Bristol is slightly ahead in total number of spindles. These three counties, together, have a total cotton consumption greater than all of Germany, and equal to about 55% of the consumption of the United Kingdom.

Men's Wear Survey. Crowell-Collier Publishing Company has published a survey made on Men's Wear which represents a cross-section of "Collier's" male subscribers throughout the U. S.

More Open Houses. The textile industry is rapidly adopting the principles of "open house" inspections. Such occasions may include the general public or specialized groups—ministers, civic organizations, schools, stockholders, small merchants, farmers, etc. Favorable

OFFICERS OF NEWLY-FORMED ACMI

Officers of the American Cotton Manufacturers Institute; left to right, Robert C. Jackson, full time executive vice-president; Ellison S. McKissick of Alice Manufacturing Company, president; and, F. Sadler Love, full time secretary-treasurer. The ACMI is composed of mills located in all sections of the country.

(Story on pages 81-83, November 1949 issue.)

TEXTILE BANKING COMPANY

Inc.

Factoring Service

Puts your sales on a cash basis
Strengthens your cash position
Relieves you of credit losses

55 MADISON AVENUE • NEW YORK

results are reported. Personal invitations to the open house secure more visitors than engraved invitations or letters.

Stainless Steel Conveyor Belt. Tests are now being made on the use of stainless steel in conveyor belts. If current development work is successful, engineers predict a new market for stainless is in the offing for around 2500 tons per year.

Spun Nylon Demand. During a recent showing of merchandise, demand was great for goods made of spun nylon—so much so that there was inability to meet the requests. Nylon sweaters have enjoyed a particularly favorable season.

Improved Wear-Tester. A German technologist is reported to have designed an improved wear-testing machine which will provide the Quartermaster Corps with more accurate predictions on the durability of textiles. The machine is a multipurpose abrasion tester, designed to simulate the various conditions which cause wear on textiles during normal service life.

Cotton in Laundry Industry. Last year 115,000 bales of cotton were used in providing wash goods handled by laundries. Consumption of competing materials in this market equalled 45,000 bales of raw cotton.

Canadian Textile Industry Employment. With more than 18,000 persons engaged in making textiles and clothing, the textile industry is now the largest source of manufacturing employment in Canada.

Service Center at N. C. State. The School of Textiles at N. C. State College will have a modern student-faculty service center as a result of a $15,000 gift from Stuart W. Cramer. Includes lounge with soda fountain and snack bar, and terrace with lunch tables. Faculty members and students can become better acquainted during luncheon periods.

Abstract Service. "Textile Research Journal" has discontinued the abstracts section; will use this space for technical papers. An arrangement has been concluded with "Journal of the Textile Institute" (England) to furnish subscribers of "Textile Research Journal" with the JTI abstracts.

ASTM HONORS WOOL MEN

Werner von Bergen, director of research, Forstmann Woolen Company, and A. Griffin Ashcroft, director of research, Alexander Smith and Sons Carpet Company, are shown being presented citations, awarded by the American Society for Testing Materials. The awards, first in the history of the society, were made for outstanding contributions to the wool industry.

Left to right: S. J. Kennedy, research director, Office of the Quartermaster General; Werner von Bergen; Oliver P. Beckwith, chief, research and development control division, Alexander Smith and Sons Carpet Company, who acted as master of ceremonies; A. G. Ashcroft and J. H. Dillon.

High Demand for Fine Wool. The ratio between supply and demand for fine wools during 1950 will play a more effective part in determining world prices than the recent devaluation of world currencies in relation to the dollar, according to F. Eugene Ackerman of The Wool Bureau. Consumption of fine wools, of which the U. S. is the largest single user, is running above production. Stock piles are being rapidly depleted.

Cheney Heads QM Association. Succeeding Charles A. Cannon of Cannon Mills, Kannapolis, N. C., Roy A. Cheney, president of the Underwear Institute of America, has been elected president of the Quartermaster Association for 1949-50.

Cotton Council's NY Promotion Office. The National Cotton Council has opened sales promotion offices at 271 Church St., New York, N. Y., with Paul M. Jones as head. Margot Herzog will continue in the post of fashion director. John W. Murray, formerly editorial director for the Cotton-Textile Institute, occupies the same position with the Council and the newly-formed American Cotton Manufacturers Institute.

Reception in Europe. American visitors to Europe usually are invited to visit inside German and Italian mills. As a rule such invitations are not extended in Northeast France, it is reported. Though Europeans are extremely interested in American high speed production methods and ask intelligent questions, some mills are reluctant to adopt them for fear of reducing quality standards. Then too, some American methods would not prove advantageous because predominately European mills

Celanese' New Staple Fiber Combines the Best Qualities of Acetate and Viscose Rayon

Celcos† . . . latest Celanese research achievement!

Multi-purpose Celanese* staple fiber that provides many of the features you've been waiting for. Fullness of hand. Unusual resilience. High dimensional stability. Ability to cross-dye with either acetate or viscose. May easily be blended with other fibers or spun 100%.

Ideal for new fabric effects . . . new types of fabrics. Perfect in year 'round suitings for men and women, in sportswear fabrics for sports jackets, slacks, dresses.

Celanese will help you to develop new markets and greater profits with this new staple fiber and a famous brand name.

Celanese* STAPLE FIBER OF ACETATE RAYON

*Reg. U. S. Pat. Off. †Trademark

make short runs of production patterns.

Quartermaster Research Building. A bill in Congress authorizes construction of a new $11 million research center for the Quartermaster Corps. A sub-committee has been named to find the best location for the laboratory.

AATCC Corporate Membership. Plans have been made so that each section of the American Association of Textile Chemists and Colorists will devote at least one program a year to corporate members and their interests.

Apparatus Train. Patterned after the Freedom Train, General Electric Company is building an apparatus train which will tour the country to display several cars full of GE equipment to dealers and industrial users.

Detergency Comparator. Mill use has demonstrated that the new detergency comparator is valuable in studying detergency conditions. Results are said to be transferable to the larger equipment with faithful reproduction, according to AATCC.

Colored Sheets. Tremendous consumer interest is being demonstrated in colored sheets—so much so that from now on large manufacturers will consider them staple merchandise instead of specialty items.

Marketing Quotas on 1950 Cotton. The Secretary of Agriculture has proclaimed a national marketing quota of 11,733,750 bales for the 1950 cotton crop and announced a national acreage allotment of 21 million acres. A national referendum will be held December 15, 1949, in which farmers will vote for or against the marketing quota; if the quota is approved by two-thirds of the farmers voting it will remain in effect.

Insect Damage Tests Standardized. Twelve laboratories in the textile industry are coordinating insect damage tests. Results of this program will serve as a basis for standard test specifications, and tend to enhance the reliability of future insect damage data. Temperature and humidity have been found to be prime factors in causing erratic measurements of carpet beetle and clothes moth damage. Information gathered to date indicates that the test period for assaying clothes moth effects may be reduced to only 14 days.

New Sales Plans. Two new sales plans favor the manufacturer. Do-All Company and the Emerman Machinery Company now have a merchandising program which involves renting machine tools to users and giving them the option to buy. By being permitted to charge the monthly payments off as a direct expense, the net effect

LABOR RULINGS

Strike in breach of contract releases employer from any further duty to bargain, permits him to deal individually with strikers and to eventually discharge them.

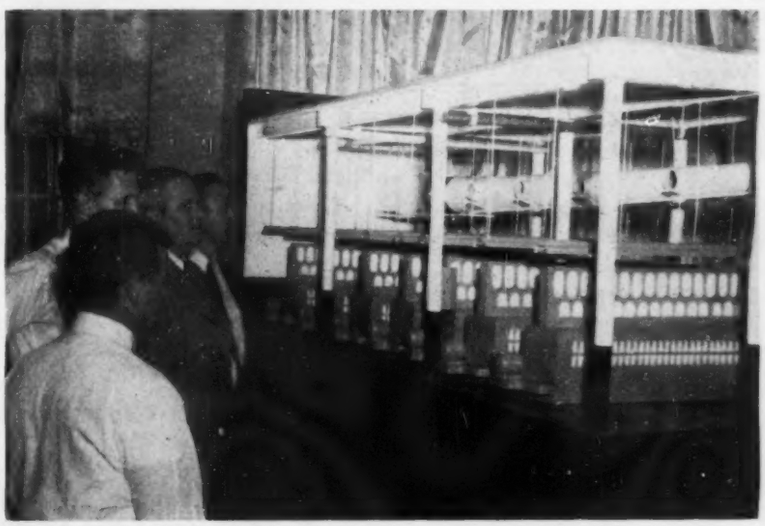
Union cannot be required to pay employees for loss of earnings resulting from union's unfair labor practices in keeping employees out of plant during strike.

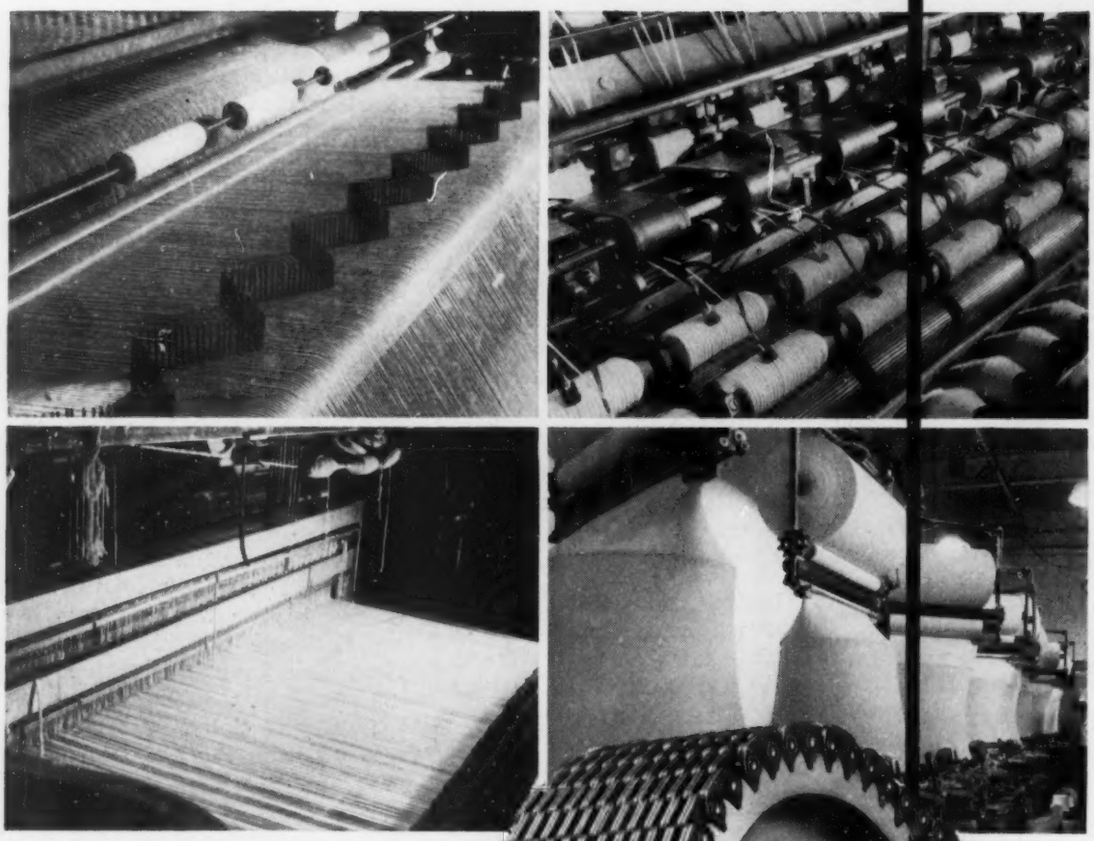
Refusal by employees of a subcontractor to work on goods from the contractor is a secondary boycott.

Posting of notice on bulletin boards by employer that supervisors had no authority to speak concerning union matters was sufficient to protect employer even though supervisor later made coercive statements.

TEXTILE MEN ATTEND AIR CONDITIONING SCHOOL

Four textile mill engineers examine a model of a Bahnson air conditioning system as installed in a spinning room. They are: (front to back) Hugh Borders, Arista Mills Co., Winston-Salem, N. C.; J. Mason Ford, Equinox Mill, Anderson, S. C.; T. E. Thornley, Carter Fabrics Corp., South Boston, Va.; and Wallace Evans, Celanese Corp. of America, Rock Hill, S. C. These men were attending an air conditioning school being conducted by Bahnson Company in Winston-Salem, N. C. Two courses were offered, each of them lasting for a week.

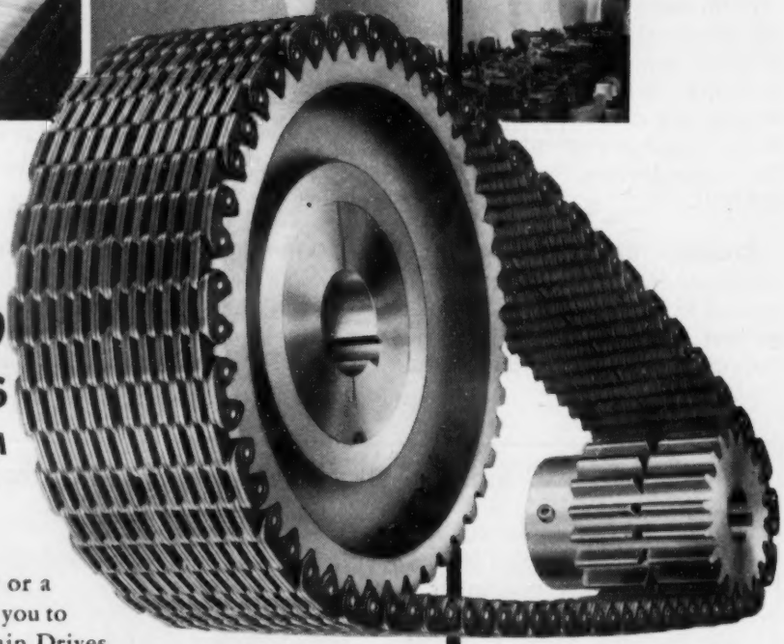




Whitney Silent Chain Drives help

TEXTILE MACHINES

DELIVER MORE UNIFORM QUALITY OF CLOTH



Whether you are a manufacturer or a user of textile machines, it will pay you to *standardize* on Whitney Silent Chain Drives.

Used as original equipment, Whitney Silent Chain helps build product reputation by giving long-lived performance . . . requiring less maintenance . . . assuring positive transmission of power to driven elements.

Used as replacement by the textile manufacturer, it assures product uniformity . . . cuts down seconds and rejects . . . reduces chain costs with its long operating life.

Equipment manufacturer or textile producer . . . you can profit with Whitney Silent Chain Drives and Cut Tooth Sprockets . . . the *all steel drives.* Write for information.

HERE'S WHY CHAIN DRIVE IS BETTER

- Positive grip
- Transmits full horsepower
- Simplifies transmission designs
- Constant uniform speeds
- Absorbs and cushions shock loads
- Low maintenance
- Long operating life
- High load carrying capacity

Whitney Chain & Mfg. Company
DIVISION OF WHITNEY-HANSON INDUSTRIES, INC.
223 Hamilton Street, Hartford 2, Conn.

is a method of rapid depreciation of the equipment; the plan is approved by U. S. Treasury Dept. In textile manufacturing, Southeastern Engineering Company will install its waste reduction and control program at no initial cost, accepting a percentage of the first year's savings for its services, payable at the end of the period.

Cotton Still Good on Peruvian Mummy. Cotton wrapped around a Peruvian mummy buried 3000 years ago is still in good condition and even retains tensile strength. There is no evidence that preserving solutions were used. Research men are presently making studies to determine changes in the molecular weight and degree of polymerization of the cotton cellulose, either through processing or ageing. The studies on the ancient cotton are thought to prove valuable in current studies of degradation of modern cottons. Well preserved cotton has also been found sealed in tombs of ancient Egyptian Pharoahs dating as far back as 2000 B. C.

Collapsible Salvage Pontoons of Nylon. Collapsible salvage pontoons made of nylon impregnated with neoprene are stocked at several naval stations. Units of these were recently used to raise a submarine successfully from a depth of 75 feet.

QM Textile Specifications. Quartermaster Corps has issued Report No. 56, "Summary of Specification Requirements for Quartermaster Textiles," to assist the industry in meeting the increased requirements for Army and Air Force textiles. Address: Office of Technical Services, U. S. Dept. of Commerce, Washington, D. C.

ECA Gets Requests for Technical Data. More than 200 requests from European countries for information on U. S. methods and techniques in fields of industry and agriculture have been received by the Economic Cooperation Administration. Delegations from foreign countries have already been on inspection tours. Technical publications are being sent to foreign countries under the program.

HOBBY FOR OLD OR YOUNG

Although primarily designed for the beginner weaver, industrial concerns and schools are installing hand looms. They make excellent hobby machines. Adequate instructions go with the equipment. Manufactured by Little Loomhouse, Louisville, Ky.

Industry and the Press. Newspapermen believe there is better cooperation between the press and industry now than several years ago was thought possible. The editors give credit to the effort made by industry to cooperate, and to the better understanding industry now has of the newspaper editor's job. Industry has received direct benefits from this understanding. Even better relations between the press and industry are expected for the future.

U. S. Domination of World Textile Market? According to F. W. Richmond, president of U. S. Foreign Corp., the domination of world textile markets by the U. S. is rapidly drawing to a close. European textile manufacturers, who before the war did a proportionately larger textile export business than the U. S., have been gradually repairing and modernizing mills and increasing staffs to prewar levels with a resulting increase both in the quality and quantity of production. Price notwithstanding, textile importers feel that presentation, quality, packaging and the diligence with which their unique specifications are carried out, are infinitely better handled by European firms.

QMC Sweaters Made Shrink Resistant. The Research and Development Branch of the Quartermaster Corps has found a method of treating wool sweaters to control felting shrinkage. Previously army sweaters were unable to withstand many field launderings without shrinking and becoming unusable.

Fabric Lining for Large Reservoir. An asphalt impregnated cotton fabric lining will be applied to over 500,000 sq ft of a large 300 million gallon reservoir now under construction. Aside from the fabric lining's prime advantage in minimizing loss of water from the reservoir after completion of construction work, its use also enables workmen to walk across the lined areas without need for special precautions against fractures in the membrane.

Cotton Shipments to China. For the importation of cotton in China, an agreement is reported to have been made with the North-China People's Government and the North-East China People's Political Committee as follows: (1) All national or private Chinese mills and dealers importing foreign cotton through any port of North-China with a destination to Shanghai may request for special permission of exemption from import duty; (2) any national or private mills and dealers importing foreign cotton through North-China or North-East China and through introduction of re-transporting to Shanghai, the freight may be cut to half. Regulations apply through December 1949; to be amended after January 1.

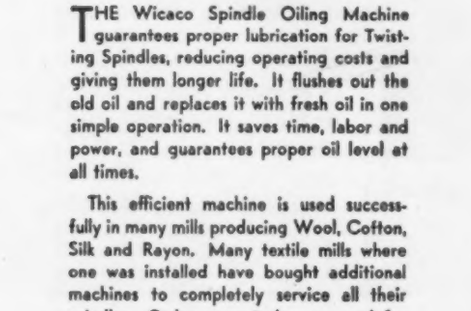
WICACO QUALITY Since 1868

This Is Our 81st Anniversary

SPINDLE OILING MACHINE

THE Wicaco Spindle Oiling Machine guarantees proper lubrication for Twisting Spindles, reducing operating costs and giving them longer life. It flushes out the old oil and replaces it with fresh oil in one simple operation. It saves time, labor and power, and guarantees proper oil level at all times.

This efficient machine is used successfully in many mills producing Wool, Cotton, Silk and Rayon. Many textile mills where one was installed have bought additional machines to completely service all their spindles. Order yours today, or send for descriptive folder NOW.



ROLLER BEARING SPINDLES

WE manufacture Textile Spindles of all descriptions for Rayon, Silk, Wool and Cotton. We first introduced Roller Bearing Spindles to the Textile Industry in 1935, incorporating the SKF Roller Bearing type of bolster. Since then we have designed and manufactured many types of spindles for the Textile Industry.

Replace your present spindles, regardless of type, with efficient Wicaco Roller Bearing Spindles to reduce operating costs and increase production. We will design them to meet your particular requirements. Write today for quotations.

WICACO MACHINE CORPORATION

Designers and Engineers

WAYNE JUNCTION PHILADELPHIA 44, PA.

Our ENGINEERING DEPARTMENT invites you to consult with them on any problem.

Precision
MACHINE PARTS
RAYON EQUIPMENT
TEXTILE SPINDLES
WICACO SPINDLE
OILING MACHINE

— OUR AGENTS —
AMERICAN SUPPLY COMPANY
78 Fountain Street, Providence, R. I.
OTHER AGENTS IN FOREIGN COUNTRIES

AN

EXECUTIVE VIEWS

THE NEWS IN TEXTILES

Prepared by a man who is closely identified with the textile industry.

SO MANY appeals are made to textile manufacturers to support so many different types of organizations that it is easy to see why many mills have been practically "hounded" to death. Nevertheless, one particular effort which should have the support of all of us is the effort made each year to secure adequate funds to support an industry-wide public relations program.

Neither this magazine nor your correspondent is in the business of furthering the interests of the various financial campaigns which are conducted from time to time. Both are, however, vitally interested in the welfare of the textile industry, and it is our feeling that our mills will not receive fair treatment in Washington and in the state capitols until we have improved the public's opinion of our activities. We have said the same thing in this column on several different occasions, but we think it is important enough to repeat it from time to time.

Labor Press Association

What calls it to our particular attention at this time, however, is the fact that we have just read of the organization of the Labor Press Association. Now, the Labor Press Association it seems will disseminate "news" to the nation's newspapers. It appears that it will operate somewhat as does the Associated Press and the United Press with one very important exception: both the A. P. and the U. P. have built up for themselves a reputation of fairness and of accuracy. This reputation has been built up the hard way by thousands of correspondents who realize their debt to the American public.

There is no guarantee, however, that the Labor Press Association will operate in this way. An announcement carried in the CIO News indicates that the Labor Press Association is being formed, "to help the nation's labor press fulfill its important role in balancing our daily newspapers." There was no explanation of the meaning of the word "balancing." Conceivably, however, "balancing" as here used could turn out to be particularly damaging to the textile industry.

News, Features, Cartoons

It seems that by the end of the current calendar year the Labor Press Association will be vigorously distributing news stories and feature articles as well as cartoons to the nation's newspapers. The service will be headed by a veteran Philadelphia newspaper man who more recently has been employed as executive officer of the Philadelphia Newspaper Guild. With professional supervision and adequate financial backing, the Labor Press Association can be a tremendous force from the standpoint of building public opinion. Its organization creates a situation which may well bear watching.

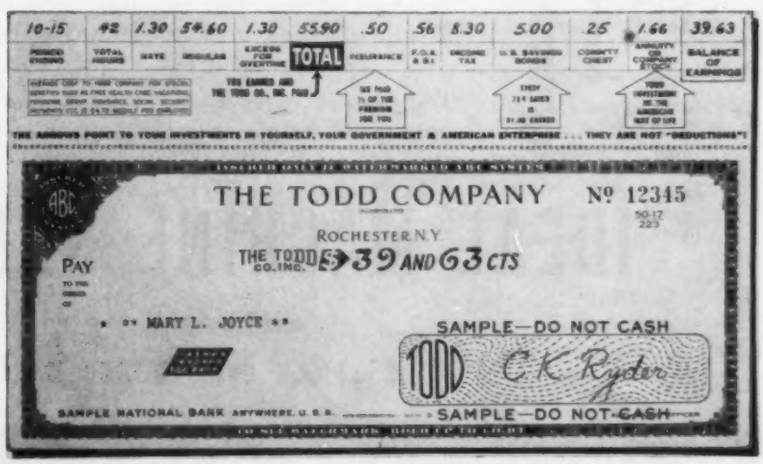
With this sort of thing staring us in the face, we in the textile industry would be extremely shortsighted if we did not take every possible step to bring before the people of this nation the true facts regarding our industry. It was not many years ago that a textile operative was brought before an investigating committee of our Congress and was described as being more or less typical of southern textile employees. As you can imagine, he looked more like Jeeter Lester of "Tobacco Road." However, to Congressmen knowing little about the South and the South's textile industry, he may have been accepted at face value: in short, he might have been accepted as actually typical of the people who work around mills.

Unfortunately, very few Congressional committees have thus far looked for the *good* things about the textile industry; more of them have been looking for mud and quite frequently have found it.

Thus, the initiative is ours if we are to build up a more favorable opinion regarding our plants. Very seldom will people come to the industry and ask us to tell them all of the good things about our mills and the people who work in them. Instead, we must go to

TO INFORM EMPLOYEES OF "FRINGE" BENEFITS

The accompanying "check" can be used by employers to inform employees of fringe benefits which have been added to their payroll dollars. Special benefits, housing, bond deductions, etc., can be shown easily. Devised by The Todd Co.



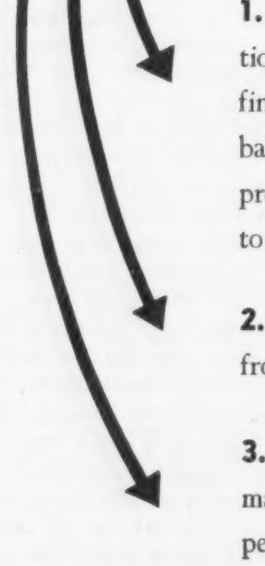
3 REASONS WHY

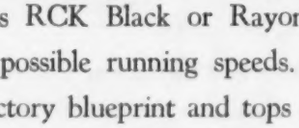
You should have flyers and spindles rebuilt at the same time

1. Both are rebuilt to original standard factory specifications so they fit perfectly and run smoothly. The flyers are finished with famous RCK Black or Rayon Bright and balanced at highest possible running speeds. Spindles are precision made to factory blueprint and tops are hardened to guarantee added years of service.

2. Flyers and spindles will be 100 per cent interchangeable from one frame to another.

3. You will be able to order standard flyers from the machine manufacturer and they will fit Ideal rebuilt spindles perfectly





A quarter century of flyer and spindle experience at Ideal assures you an engineered rebuilding job second to none.

We furnish extra roving spindles and flyers while yours are being rebuilt.

IDEAL MACHINE SHOPS, INC.

PHONES 4161 and 4391

BESSEMER CITY, NORTH CAROLINA

25TH YEAR OF CONTINUOUS SERVICE TO TEXTILE MILLS

the public with an aggressive program which will dispell many of the mistaken beliefs which have been held through the years. It is not an exaggeration to say that many people who do not live in the textile areas still cling to the belief that children work in cotton mills, that most employees are unfamiliar with shoes, and that everywhere there is poverty, dejection, and disease. Few of them realize that today the average textile employee in the South makes more than the average school teacher. We have a great deal to tell the public, and it is time we did it effectively and completely.

The formation of the Labor Press Association is a reminder to us that time may be running out.

Japanese Textiles

One of the most pressing problems which has confronted the textile industry in many a moon is that of Japan. It is not a new problem because it has been with us for many, many years. As many readers of this magazine will recall, imports of cotton goods from Japan posed such a serious threat to American mills in the late 1930's that our markets were literally being swamped with cheaply made Japanese goods.

Once again that threat confronts us, and this time Japanese mills, through the benevolence of the American Nation, are subsidized by American tax money. As this is written, reports in the New York market indicate that Japanese prices are being quoted which are 30 per cent to 35 per cent below their former "floor prices." Market reports indicate that 37 inch 80x60 4.68 goods, which are now selling for approximately 17½ cents in the American market, are being offered by the Japanese at 14.30 cents.

For many months there has been talk of a joint Anglo-American mission to Japan. It may be recalled that this first came up last January when Sir Raymond Streat, chairman of the British Cotton Board, came to this country for conferences with the industry's leaders. Sir Raymond was very anxious to organize a joint mission but sentiment in this country was divided as to whether or not such a step should be taken. Some people contended at that time that no good purpose could be served by a mission made up of both American manufacturers and English manufacturers. They held that by proposing a joint mission the English were merely trying to keep Japanese goods out of sterling markets, and in effect force them into American markets.

During the time since last January the question has been pretty thoroughly discussed in this country, and as far as this writer can see, there is no reason to believe that the English are trying to help us keep the Japanese goods out of the United States. It is nice to talk about "one world," but in the final analysis, British manufacturers are trying to protect British markets, and American manufacturers are trying to protect American markets. In the meantime, of course, the American taxpayer is sending millions and millions of dollars into Japan, a country which it defeated only a few years ago.

Keep the Goods Out

Most practical mill men do not have the opportunity of keeping up with what is happening in world textile markets. They are too busy with day-to-day problems to find the time to inform themselves regarding tariffs, etc., but what all will agree is that Japanese goods should not be allowed to come into the United States. Japanese laborers work for about one-fifth the standard American wage, and in such a situation, it is difficult to see how American mills can compete in the world market especially in view of the fact that we are now subsidizing foreign mills through American tax money.

The latest report is that important conferences will be held in America some time in January, and these conferences may determine what collateral action British and American manufacturers will take. It is understood that a group of British mill men will come to this country, and that the group will be headed by Sir Raymond Streat. It is expected that they will confer with American manufacturers over a course of one week or more, and that the main point for discussion will be the Japanese situation.

Out of those discussions may come a solution to the problem, but this writer is as skeptical of British diplomacy as was the late Will Rogers. Will Rogers always contended that Americans meeting with Englishmen were like so many babes in the woods when it came to masquerading as skillful diplomats.

1950

Jan. 16-19 — First Plant Maintenance Show, Auditorium, Cleveland, Ohio.

Jan. 23-25 — Annual Meeting, National Cotton Council, Hotel Peabody, Memphis, Tenn.

Mar. 30-April 1—Annual meeting American Cotton Manufacturers Institute, Palm Beach Biltmore Hotel, Palm Beach, Fla.

April 24-28—Knitting and Allied Crafts Exposition, 71st Regiment Armory, New York, N. Y.

April 25-26—Annual convention, National Knitted Outerwear Association, Hotel Waldorf-Astoria, New York, N. Y.

April 27-29—Annual convention, Alabama Cotton Manufacturers Association, Buena Vista Hotel, Biloxi, Miss.

May 1—Annual meeting, National Association of Hosiery Manufacturers, Claridge Hotel, Atlantic City, N. J.

May 1-2—Hosiery Industry Conference, Claridge Hotel, Atlantic City, N. J.

May 8-12—American Textile Machinery Exhibition, sponsored by National Association of Textile Machinery Manufacturers, Atlantic City Auditorium, Atlantic City, N. J.

May 11-13—Annual meeting, Cotton Manufacturers Association of South Carolina, Fort Sumter Hotel, Charleston.

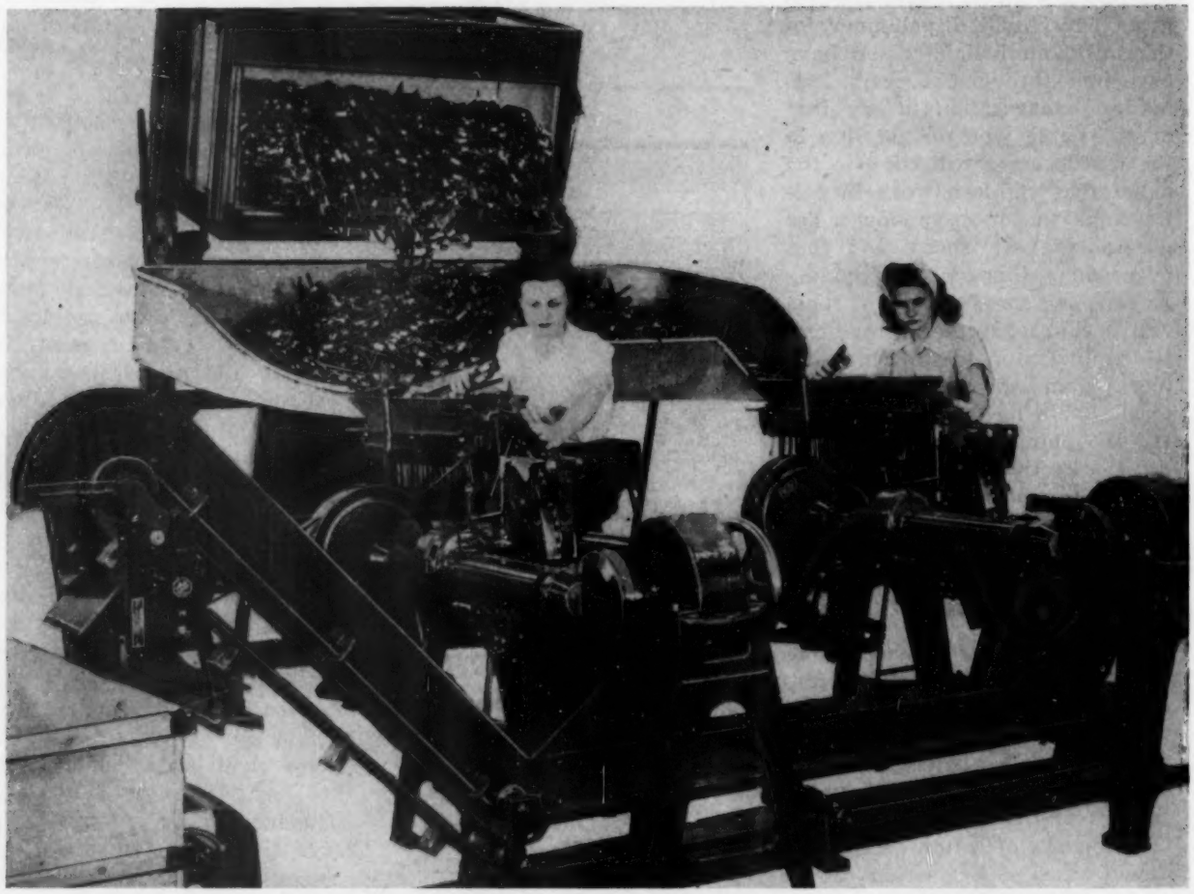
June 1-3—Annual convention, Southern Textile Association, Ocean Forest Hotel, Myrtle Beach, S. C.

June 12-16—Materials Handling Exposition, International Amphitheatre, Chicago, Ill.

Oct. 2-7—16th Southern Textile Exposition, Textile Hall, Greenville, S. C.

Sept. 22-23 — Second Canadian Textile Seminar, Queen's University, Kingston, Ont., Canada.

Sept. 28-30—Annual convention, American Association of Textile Chemists and Colorists, Wentworth-by-the-Sea, Portsmouth, N. H.



TYPE K MACHINES - BOBBIN BOX HOIST - CONVEYORS

YOU KEEP COSTS DOWN WHEN YOU KEEP UP TO DATE

For over thirty-two years, Terrell engineers have worked continuously to help the textile industry solve its growing variety of bobbin cleaning problems. During that time, the Type K and the Type L loom bobbin cleaning machines have become a vital and increasingly important factor in over-all efficiency and economy—in mills of all sizes—in all parts of the world. Today, Terrell's modern bobbin cleaning and handling equipment offers you the fastest, safest, and most economical system ever devised for stripping waste from filling bobbins.

Terrell engineers will show you, by actual cost comparison, how much this equipment will cut your cleaning and handling costs.

A NEW TERRELL SERVICE

OLD MACHINES RECONDITIONED

We have recently set up
A New Service
whereby mills can have their bobbin cleaning machines repaired, or late and improved assemblies added to them. Complete information on this new and very practical plan is available on request.

The TERRELL COMPANY, Inc.

CHARLOTTE, N. C.

SHORTS and REMNANTS

Index to Articles

"It would be appreciated if you would send to me an Index of articles published in your magazine for the years 1946, 1947, and 1948."

ED SPEIR
United Merchants & Mfrs., Inc.
New York City

(Which reminds us—the Index for all articles appearing in TI for 1949 is tucked into this issue. Even if you don't save all copies of your magazines, hold on to the Index because it will prove a valuable reference for you.)

◆

Electron Micrometer

"I shall be greatly obliged if you will kindly send me as soon as possible a copy of the paper entitled 'Electron Micrometer Measures Yarn Evenness.' "

P. B. SARKAR
Indian Central Jute Committee
Tollygunge, Calcutta
India

◆

Hirst Article

"I would appreciate receiving two copies of the pamphlet 'The Printing of Piecegoods and Related Processes' by Arthur E. Hirst."

H. SCHWARTZ
Schwartz-Liebman Textiles, Inc.
56 Worth St.
New York City

◆

Putting Out Waste Fires

". . . if you would send us two reprints or tear sheets of the article 'Dry Chemical Fire Extinguisher' from the October issue."

CAROLYN J. JONES
Librarian
Westpoint Mfg. Co.
Shawmut, Ala.

(Reprints are available on this one. It caused discussion, both con and pro.)

◆

From the Files

". . . found in old 'Cotton' [that used to be us] of the year 1930 some pictures of Arkwright's and Hargreave's spinning frames. Am collecting pictures in connection with the art of weaving and spinning through the ages."

ERWIN MULLER
Techniker
Ruti Machinery Works, Ltd.
Zurich, Switzerland

◆

Printing Engravers

". . . are there any factories . . . that have facilities for the engraving of textiles."

HAROLD PEEL
Medillin
Colombia, S. A.

(Partial list of concerns which do engraving work for copper rolls on textile printing machines: Cranston Print Works; Dominion Textile Co., Ltd.; Glass Engraving Co.; R. Goudie & Sons; Rosmore Textile Engraving Co.; Stafford Printers, Inc.; Verotex Engravers, Inc.)

N. C. State Textile Alumni

N. C. State College is attempting to compile a complete list of textile alumni. It is requested that alumni write the school giving name, years they attended the school of textiles, present address, and exact title of position.

◆

Why Not Try Smoke Signals

WUD214 PD
CLEVELAND OHIO SEPT 9 349P
TEXTILE INDUSTRIES
806 PEACHTREE
WESTINGHOUSE USING YELLOW & BLACK BLEED SPREAD OCTOBER. SHIPPING PLATES AIR EXPRESS SEPTEMBER 17. ADVISE IF UNSATISFACTORY
KREBS FULLER & SMITH & ROSS INC.
446PM.

PLS MAKE THE 6TH WORD BED RDS BLACK BED SPREAD

OPERATOR WHAT SHOULD THE 6TH WORD BE? . .

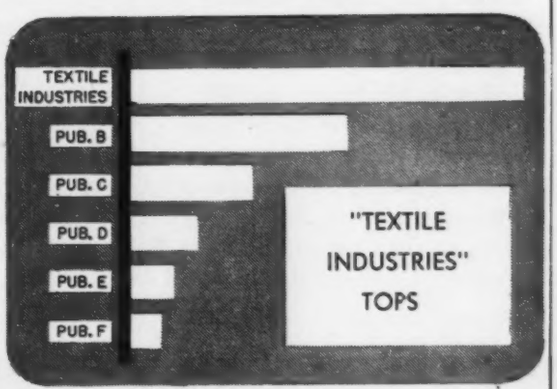
BED PLEASE IT SHOULD READ YELLOW & BLACK BED SPREAD

OK TKS
XD RCD WUD 214 TKS . . (

(And so, time marched on. The Westinghouse yellow and black "bed spread" appeared on pages 146-147 October 1949 issue.)

READERSHIP SURVEY SHOWS "TEXTILE INDUSTRIES" TOPS

In an independent and impartial survey made by a firm of nationally - known accountants, TEXTILE INDUSTRIES received almost twice as many first choice votes as the next publication. The accountants used Clark's Directory of Southern Textile Mills, mailing the questionnaire to the superintendent or another executive of every mill listed. The subject: "Please number publications you read in the order of their value to you in operating your mill."

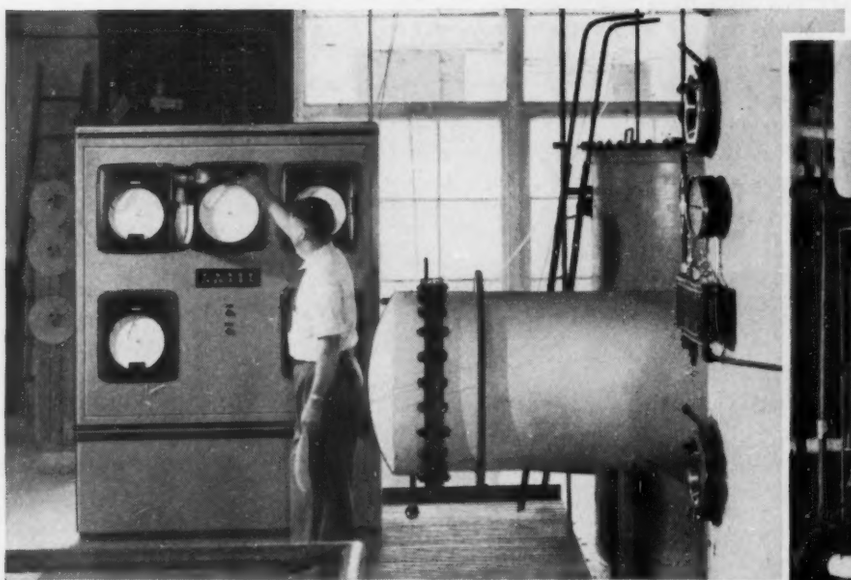


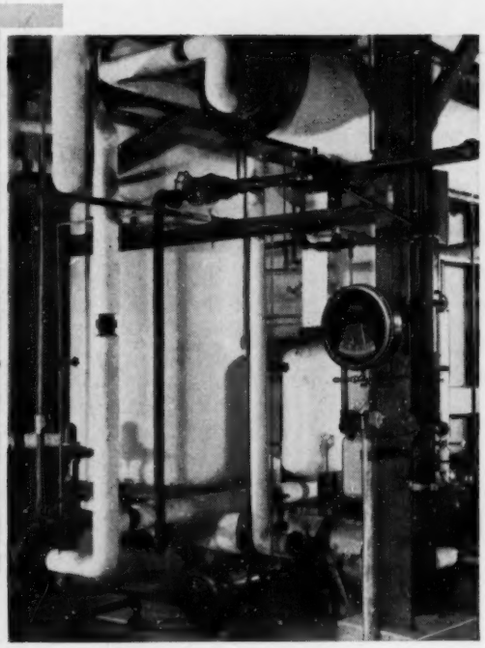
To those who listed TI first: Thanks.

To those who did not: It's our fault. We'll do better from now on.

It's here!...

AUTOMATIC EVAPORATOR CONTROL





THE FIRST KNOWN AUTOMATIC EVAPORATOR CONTROL for textile processing (shown above) was installed in the American Thread Company's Kerr Mill at Fall River, Mass. It was designed for Zaremba Evaporators. Careful estimates indicate that this Foxboro Cabinet Control system will pay for itself in less than a year through new, overall economies.

A New Opportunity to Modernize Another Important Textile Process

By adapting the basic principles of successful evaporator control to textile processing, a far more efficient means of reclaiming caustic is made available. Through accurate, coordinated control of variables, this latest Foxboro development improves caustic reclamation three ways . . . it increases evaporator capacity and saves caustic, thus cutting costs; it helps to reduce stream pollution, and it eliminates routine checking, manual controlling and record writing.

Textile Machinery and Mill men worked closely with Foxboro engineers in developing this important new automatic control system. Such cooperation frequently leads to important processing advances and this is no exception. For complete information on the new automatic evaporator control, contact your nearby Foxboro Field Engineer or write, **The Foxboro Company, 18 Neponset Ave., Foxboro, Mass., U. S. A.**

5 OUTSTANDING FUNCTIONS

1. *controls caustic concentration automatically by electronic comparison of solution's boiling point to boiling point of water at the same pressure . . . a unique method on Foxboro systems, known as "boiling point rise" control—*

2. *accurately measures steam flow and weak liquor flow to indicate efficiency of evaporators for better maintenance—*

3. *controls liquid level of make-up caustic tanks—*

4. *measures the percent of caustic in steam condensate and condenser hot water leaving evaporator . . . and—*

5. *automatically diverts these to sewer if caustic content rises above safe limits.*

FOXBORO
Reg. U. S. Pat. Off.

Process-Improving Controls
FOR THE TEXTILE INDUSTRY

THIS CAN HAPPEN TO COTTON. Front row, left to right: clean oil, black oil, black oil and grease. Back row, left to right: oily floor sweepings, burned cotton in center of bale.

Stains and Foreign Matter on Cotton

By DR. BERT JOHNSON
Cotton Technologist
Production and Marketing Division
National Cotton Council

EXCLUSIVE

SPINNERS will welcome news that the raw cotton industry is concentrating on the problem of keeping spots, stains, and foreign materials out of cotton, thus lessening the possibility of damage to yarn and textiles. Already apparent are two encouraging achievements — discontinuance of the manufacture of asphalt coated cotton bale ties and a reduction in the number of bales marked with ink and paint.

For this clean cotton campaign to be more effective, however, it must be more widespread. Cooperation of all segments of the cotton industry, including manufacturers, is needed. All continually should be alert to likely sources of spots and stains.

Since analyses have shown that a great many spots and stains in the finished textile may be traced to damaged raw cotton, it is easy to blame such cotton for all damaged work.

Mill Responsibility. In many cases, however, the more obvious answer to the cause of textile stains may not be the complete answer. Close observation and careful mill management are necessary to prevent some textile spots and stains due to faulty workmanship or inefficient practices within the mill itself. In order to reduce the amount of seconds being manufactured, mills not only must receive undamaged lint from the raw cotton industry—they also must watch their own housekeeping.

Just what percentage of spotting is caused in the mill and what percentage is due to damaged raw cotton is not known. Individual cases do not prove a trend. The following three examples perhaps show the range of mill thinking on the subject.

Case 1. Blames Raw Cotton. In Case No. 1 a mill technical director is convinced that all blame for textile spots and stains lies with raw cotton. He reports: "I put a well-trained man out in the mill to investigate tar and tar spots from every angle. I worked closely with him. In this study we did eliminate the possibility of certain other sources as the cause of tar spots — other than in or on the cotton bales. Our cleaning efforts were redoubled.

Though stains and foreign material do get into raw cotton before it reaches the mill, not all blame can be placed on grower, gin, handler.

Improved lighting was made available for more meticulous examination of the bales. Certain machine parts that tended to pick up and accumulate tar from cotton were thoroughly inspected and cleaned at short intervals. In spite of this, we continue to be confronted with a high percentage of seconds from tar spots."

Case 2. Blames Faulty Loom Part. The second example presents another view. A mill official writes: "For a long time we have used canvas harness straps on our looms. During the war when it was difficult to get harness straps, we purchased some from another concern, but we do not believe they were properly made. We are sending you three of these straps. One is new. One is partially worn, and one is worn out. You will notice on the worn-out strap that the binder has oozed out from between the layers. As these straps are directly over the looms, we think the fluid oozing out and dropping on the cloth causes the trouble."

Case 3. Mill Shares Responsibility. A third example occurred in a progressive mill producing high quality knitting yarns. The manager stated that damaged cotton was causing much trouble. He took a visitor through the spinning room to show the nature of this damage. Bad work roving packages—allegedly caused by damaged cotton—were assembled at the ends of almost every spinning frame. This seemed an impressive indictment of damaged raw cotton until the manager and his visitor examined the roving more closely. "Well," the manager noted, "this one looks like we're to blame . . . and this one is our fault, too . . . this one may or may not be due to poor cotton. No, bad work is not all due to damaged cotton."

On close examination about one in five of the bad work rovings was found to be due to causes within the mill.

A lesson to be derived from the foregoing examples might be summed up something like this: First, a careful and objective examination of damaged work and of mill practices is necessary before the conclusion can be drawn that all or part of bad work is due to foreign matter in raw cotton. Second, an equally close examination of all mill processes probably will be necessary in order to find the cause or causes of any bad work which may be found to be originating in the mill. Third, close supervision and good leadership will have to be exercised in order to eliminate causes of the bad work during processing.

Of course, sources of damage to cotton in mill processing will vary in different mills. Once the trouble has been discovered, however, alert management will prescribe the proper solution to the individual problem. The check list which follows points out a number of situations which may result in damage to cotton after it has arrived at the mill. Possible remedies are suggested. While this information is by no means new, it may serve to remind manufacturers of certain practices which may have escaped notice. The result may lead to this elimination of conditions which might be the cause of damaged work. Note these points:

Surplus Oil. Is the fixer or oiler getting a little too liberal with oil at any point on any machine? Is he inclined to be a little careless at times and let an extra drop fall from the snout of the can on a place where stock in process might touch the oily spot? Look around and see if oil is present at any place except on the bearing proper.

Overhead Shafting. How about overhead shafts, or any shafts which may be above work in process—are they free of oil? If the bearings are too full, a blast of air at the blow down can atomize droplets of dirty oil from the bearings and carry them right to the places where the most harm can be done. Oil dripping at any time from an over-filled bearing can cause plenty of spotted work.

Belt Dressing. Belt dressing, carelessly applied, can be sprayed over a wide area. The suspicion that belt dressing is a major cause of spotted work has been voiced by several mill men. This may be hard to prove, but don't overlook the possibility.

Ring Grease. Are twister rings greased heavily? Plenty of grease is thrown about by these rings. This is attested by the slippery floors found in some twister rooms.

Housekeeping Practices. Are you overlooking apparently trivial housekeeping practices which may be causes of damage? Some of these, unknown to management, might be a source of trouble. In one mill's cotton warehouse, for instance, several drums of oil were placed near a door so that the drum spouts protruded into the

EDUCATIONAL PROGRAM OF NATIONAL COTTON COUNCIL

To encourage better preparation of cotton for the market, the Council reminds producers, ginners, warehousemen, and transporters that cleaner cotton strengthens cotton's competitive position.

Material Distributed by Council Emphasizes Causes of Stains

(1) Rust rubbing off bale ties on to lint.

(2) Oil or dirty water from machinery or buildings dripping onto cotton.

(3) Cotton coming into contact with dirty trucks, railroad cars, platforms, and floors in gins and warehouses.

(4) Soiling of fiber by dirty or oily farm machinery and vehicles.

(5) Sweepings from floors thrown into lint cotton at the gin.

(6) Wiping floors or machinery with cotton and depositing the oily waste in the bale.

(7) Asphalt coated ties.

(8) Jute fibers from frayed bagging becoming twisted in with cotton lint.

(9) Marking of cotton with inks and paints.

(10) Leaking of oil from cylinders in down packing gin presses.

(11) Road oil and tar getting on unprotected cotton during transportation by trucks, trailers, or wagons.

OIL SOAKS THROUGH. This view of an open bale shows how oil penetrated the cotton.

OIL IN CENTER OF BALE. This oil reached the middle of this bale of cotton (a Strict Low Middling bright bale).

passageway. The oil-soaked floor was evidence of leaks and spills. Any bales touching these drums, spouts, or floor might easily have absorbed the oil. Damaged cotton would have been the result. Such a loss, although the fault of the mill, might have been mistaken for damage inflicted on the cotton before arrival in the mill.

Most mills are careful about oil storage and details of a similar nature. A careful tour of the plant in many cases may reveal conditions to which employees should be alerted. Greasy wheels on hand trucks can rub against cotton. Fixers sometimes may use roving boxes or sliver cans to support work. If grease is not wiped off these boxes or cans, it may get into the work. Then again an accident may occur—grease or oil may be spilled. If it is not carefully wiped off it may cause trouble, off and on, for a long time to come.

These sources of damage due to bad housekeeping are obvious and their remedy is a small matter. Most mills are careful to avoid them. Nevertheless, it might pay once in a while to check up on such simple causes of trouble.

Dirty Reworkable Waste. Dirty cotton accidentally may get mixed up with reworkable waste. The operative thoughtlessly may wipe up dirt with reworkable waste he has accumulated in his pockets, unconsciously return the dirty cotton to his pocket, and then later put it in the reworkable waste can. Keep employees alert as to the grades of waste and educate them to the necessity for keeping grades of waste separated. Be sure plenty of waste containers are placed in the most handy places.

Leaks and Outside Dirt. Are buildings and equipment in good condition? Sometimes tar or asphalt will drip from roofs. A leaky roof easily can leak dirty water. Soot and dirt can be blown or washed into a mill. Such occurrences certainly are infrequent, but when observation discloses boxes of roving, bobbins, etc., stored in rickety, jerry-built passageways between buildings, it is difficult sometimes to understand how the work is ever kept clean.

Belting. Check on belts and tapes. Are they frayed or worn so that pieces might be whipped off and thrown into work in process? Remember also to check harness straps on looms.

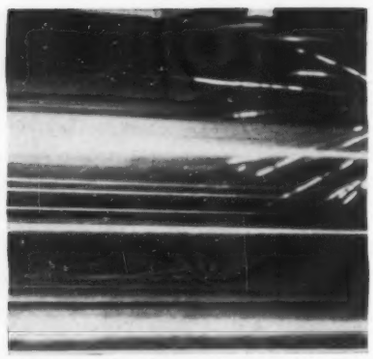
Mill Cleaning. Clean-ups and blow-downs move a great amount of lint and dust around the room. If some of this lint is oily and drops on work in process, it will cause trouble. More care in dusting off machines and fanning slugs and dirty lint off the work will pay dividends.

In addition to the foregoing suggestions, individual mill managements may find further ways to insure clean work in their particular plants.

Campaign for Cleaner Raw Cotton. Even though these sources of damage are eliminated in the mill, there still remains the problem of damaged raw cotton. The National Cotton Council, in cooperation with interested industry organizations, is conducting a campaign for cleaner raw cotton. The goal of this activity is delivery of clean and undamaged raw cotton to the mills. It will not be easy to accomplish this objective. A strong and continuous educational program is required.

Mills have complained frequent-

(Continued on page 99)



Photograph shows the actual disturbances created in nylon warp by a severe electrostatic field. Each end of nylon is repelled from adjacent ends as a result of charges accumulated from friction. Application of alpha radiators immediately dissipated the charges.

Radioactive Element

By PAUL M. PLATZMAN
Associate Editor "Textile Industries"

EXCLUSIVE

POLONIUM, born of the atomic age, has been tamed for industry. This alpha radiating metal proves to be an effective weapon in the war ceaselessly being waged against static electricity. It is the firing chamber of research's latest development, the Alphatron static eliminator.

OUT OF the lead-shielded chambers in which the nation's physicists investigate nuclear disintegration comes a discovery of great portent—safe, super-efficient electrostatic eliminators that harness the alpha ray. Several of the first applications of these atomic anti-static agents were made in the textile industry, one whose many operations have long been constricted by static electricity.

Radioactive static eliminators owe their efficacy of the high ionizing power of alpha particles emitted from the source. Of all the radioactive emissions (beta, gamma, etc.) alpha particles have maximum specific ionization power. It is this power which makes air conductive and dissipates any accumulating electrostatic charges by providing for them a path to ground.

Polonium Is Alpha Source. Rapid growth of America's stock pile of radioactive materials for military purposes incidentally resulted in the availability of many alpha radiators at reasonable cost. Of these radiators, polonium is considered the most vigorous alpha source.

Polonium is a grayish white metal that was first discovered by the Curies in 1898. Labeled Radium F, its atomic weight was determined to be about 210. The metal was classified as Element 84 (Po) in the

Static Electricity Hampers Production

ELIMINATING static electricity at most critical manufacturing stages cuts production costs and promotes safety. One cotton mill's record shows a 50 per cent drop in carding output during cold, dry periods conducive to static formations. There is no simple way of computing damages to quality as a result of pieced slivers or broken web selvages which are carried through subsequent departments.

Static is actually the phenomena responsible for all this sticking, ripping, tangling, and stretching of things. The indictment against static in textile mills would make a lengthy list, but to mention a few:

1. Fly adhering to loom reeds, clogging heddle eyes, tricot bars, knitting latch or beard needles, causing ends down.

2. Card webs rupturing between comb and calender, depositing as floor waste.

3. Balled up drawing frame sliver, choked trumpet holes, lapping and eyebrowing.

4. Wrapping of carded wool web around Peralta rolls unless a half hour warm-up period in which the cards are inoperative is resorted to.

5. Ends down at creels, warpers, slashers, beamers.

6. Ceilings, fixtures, machinery loading with lint and constantly threatening stock in process.

7. Matting of condensed wool on jack spools necessitating speed cut backs on mules and ring frames.

8. Packaging, winding, or laying of cloth on cutting tables slowed by static interference.

Millions of dollars and many lives are expended annually in static-caused fires. The potent electrical forces which create the interferences jamming or actually breaking textile machinery is also liable to spark a serious conflagration.

Static is encouraged in cold, dry atmospheres. On a warm, humid day the conductivity of air is increased and the charges have a path to flow through to ground. Thus, at any given time a measurement of the electrostatic charge

84 Neutralizes Static Charges

periodic table, and eventually was found to be a thirteenth product in the uranium-radium disintegration table.

For many years polonium production on a commercial basis was not feasible. However, the momentum that radiation research gathered from the Manhattan Project speeded the discovery of economical means to extract polonium in fairly large quantities.

The radioactive metal is refined by the Canadian Radium and Uranium Corporation, who in collaboration with the Gibbs Manufacturing and Research Corporation, developed the Alphatron static eliminator. The static eliminating character of the device stems from its polonium content. It is the world's first commercial alpha radiator.

Alphatron Is Versatile. The ordinary Alphatron is, essentially, a polished brass or nickel supporting member in the shape of a bar, sphere, rod, or screen on which the radioactive element polonium is plated by means of an electrochemical process. Concentrations of various intensities, depending on the nature of application, can be plated on the supporting member.

The active polonium surface of the Alphatron is gold plated to provide a protective cover which facilitates removal of dust and other foreign particles. The gold plate also protects against oxidation.

Polonium emits alpha particles of approximately 4 million electron-volts energy. Gas molecules of air are ionized, forming positive and negative ions, as the alpha rays penetrate the field. The air loses its insulating properties and static electricity flows through to ground.

The non-hazardous (polonium is the only radium derivative that may be transported in the mails) alpha radiator is usually fabricated in strips. However, it is possible to deliver eliminators in almost any possible geometric configuration and required intensity. This feature makes the alpha radiating static eliminator extremely reliable, effective, and versatile.

Alpha radiators are universally adaptable, even under the most difficult operating conditions. Unrestricted by size or shape, alpha radiators of varying intensities (depending on the measurable electrostatic charge to be dispersed) may be employed in explosive atmospheres such as may be found in fabric coating plants or in dust and lint laden atmospheres where the presence of electricity from other types of static eliminators might in itself constitute a primary danger. Alpha radiators are relatively unimpaired in performance by heat, pressure, and humidity.

Alphatron At Work. The adaptation of alpha radiators in the textile industry is so recent as to prevent reporting on that side of the story depicting amortization, replacement, long range operations, and complete analysis of efficiency.

Among the mills first to utilize alpha radiating static eliminators was Darlington Fabric Co. of Newton, N. J. Six high speed Sipp-Eastwood silk system warpers are equipped with Alphatrons.

The bulk of fiber processed by

present might be instantaneously accurate but not applicable over longer periods where atmospheric conditions necessarily vary. The safest procedure for static elimination is protection 100 per cent of the time by a continually operative radiator.

Humidification doesn't solve the problem entirely for some special situations but does make the task of dissipating static easier when used in conjunction with a static eliminator. However, certain processes and equipment cannot function in excesses of moisture while general humidification in a room usually does not correct for purely localized static situations. In some operations, i.e., the nip of Peralta rolls crushing wool web, it is impossible for air to circulate freely, thus preventing the moisture laden atmosphere from reaching the affected locale.

Some mills eject live steam into the air to counteract particularly troublesome static conditions. Saturation of the air can be injurious to machinery and material and, at the same time, create an unhealthy environment for personnel. There are certain mechanical operations generating heat and static simultaneously. Humidification of any sort would tend to have small beneficial effect, especially when the frictional heat is of such temperature as to nullify moistening of the air, and static electricity will not be dissipated.

Courtesy, Gibbs Mfg. and Research Corp.

5 BASIC WAYS IN WHICH STATIC RAISES HAVOC
Sparks set off fire or explosion that ruins plant buildings and equipment, maims or kills employees, holds up manufacturing.
Static-loaded products attract and hold contaminating air-borne dirt and dust particles that have opposite electrical charge.
Tensions set up by static hold speed of machines far below full capacity, actually cause machine parts to break. Spoilage and waste of product (like paper) result from tearing, wrapping around guide rollers, etc.
Pull of static (like magnetic force) upends individual fibers of certain products, lowers their quality by roughening surfaces that should remain perfectly smooth or flat.
Accidents to personnel come with surprise of jolting spark that jumps between fingertips and charged machines or other objects.

Alpha radiating static eliminator is installed beneath warp sheet on the Johnson seven-can slashers processing acetate and nylon at Cheney Bros. plant. Rays from Alphatron ionize air, grounding any static charges building up. Rolling of warp ends is said to be eliminated, improving quality of weave.

"Textile Industries" staff photos

Mounting brackets of alpha radiator are simple Ls. Bar is 66 inches long, 60 inches of which are coated with polonium and gold protective plate. The static eliminator requires little maintenance, few safety precautions. A minimum of 18 months radioactivity is anticipated.

this concern is rayon and nylon in the 40 denier category. In the opinion of the company's executives, the static eliminators could easily pay for themselves in one day of static-favorable weather. The Newton mill has installed an air conditioning system too. No data is available covering the dual static eliminating equipment. Nevertheless, John M. Cronin of Darlington states that both "complement each other."

In Manchester, Conn., Cheney Bros. pioneered the first mill trials of the Alphatron. A small sample unit consisting of a 14-inch polonium strip was tested on a silk system warper with effective results when used on acetate yarns. Tests conducted with a full-sized unit on a can type slasher immediately gave indication of more effective static elimination, according to the company's technical director, H. J. Bickford.

The half-life of polonium is approximately 18 months, which means that the alpha radiating capacity is reduced 50 per cent in that time interval, and the rate of disintegration probably increases from that point on. The effectiveness of alpha radiators as a static eliminator will be used as a criterion to determine when replacement becomes necessary, rather than the anticipated half-life.

There has as yet been no evidence of deterioration of the polonium bar used at Cheney. The Alphatrons are attached to the take-off end of two Johnson seven-can warp slashers below the yarn sheet and within one inch of the sheet, immediately after take-off drum pressure roll and immediately prior to the loom beam. They are mounted on brackets providing ground connections to the frame of the machine.

The two slashers are being used primarily for nylon and acetate yarns. Although some static appears to be present after passage over the radiating units in some instances, the amount is negligible and does not affect the quality of warp as far as can be determined.

Mr. Bickford believes that the rolling of ends in the warp, which detracts from satisfactory weaving, occurs when static eliminators are not used. On such occasions,

Alphatron Not Hazardous to Health

WITH RADIOACTIVE materials it seems that grossly exaggerated and unfounded fears have developed regarding the dangers involved. Polonium, although a superb ionizer, is harmless to humans. Alpha particles radiating from polonium represent the radiation of highest energy emission of radioactive materials; however, the penetrating power of alpha particles is relatively small.

Alpha particles are stopped by 4 cm of air, converting them into harmless helium atoms. Therefore, people at a distance of 1.6 inches from an active source are not adversely affected by radiations. Persons who for some reason come in physical contact with the active surface are not in any danger, since the alpha radiation will penetrate only a few microns of their skin surface. The Alphatron is claimed to be the only radioactive static eliminator possessing these features.

Authorities Speak

Reporting on the installation at Cheney Bros., the Connecticut State Board of Health stated, "There is no health hazard associated with polonium strips as now employed."

"I believe that a soundly constructed static eliminator, having a polonium deposit which is completely covered by an intact and closely adhering gold plating, and which is initially free from external contamination, should be entirely safe for industrial use in the sense that no polonium contamination should be possible in the user's plant unless the gold plating is deliberately abraded away by mechanical means."—Dr. Robley D. Evans, Professor of Physics, Massachusetts Institute of Technology.

a heavy charge can be noticed. With the alpha radiators, slashers have been operated at speeds ranging from 20 to 50 yards per minute, depending on the job.

Simple Maintenance. Cheney's Alphatrons are constructed of ¼ inch nickel base (60 inches long and one inch wide) upon which is coated polonium and the protective gold plate. Approximately three inches on each side of the bar extend beyond the alpha radiator, bringing the total length to 66 inches. The deposit per square inch is one millicurie.

These devices, after installation by Cheney Bros., have not required any attention and operate in a trouble free manner. No special personnel or care is needed for servicing the Alphatrons. There is no tendency for fly or lint to collect on them in their present location and infrequent cleaning is the rule.

The radioactive layer, with its cover of gold, adheres extremely well and can be separated from the metallic base only by mechanical means such as strenuous rubbing or by chemical treatment. Touching of the active layer is avoided because the accumulation of dirt or grease increases the absorption of the emitted radiation, and therefore, decreases the efficiency of the static eliminator. Dust particles adhering on the active surface are removed gently by air circulation.

Cost Information. No actual savings in labor or efficiency of a measurable nature were determined after installation of these eliminators. A gradual improvement in weaving qualities of warps was evident after the installation, but it is not known how much of this improvement can be attributed to elimination of static.

Polonium is sold by the millicurie, which is a measure of radiation equal to about three trillion ionpairs per second. The deionizing bars cost about six dollars a square inch for most textile applications. This high sounding cost is comparatively low when it is considered that a loss of hundreds of dollars in down time or imperfect products may be caused by static electricity, all in a matter of minutes.

The A B C's of Static Electricity

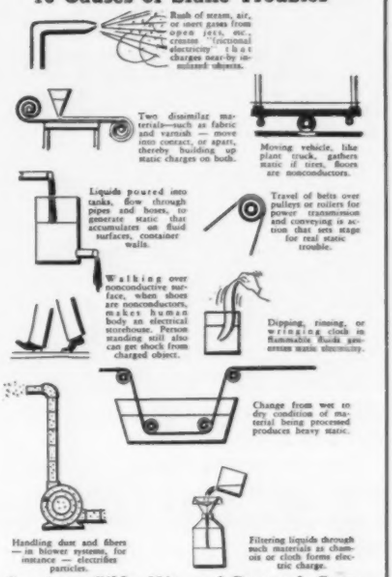
STATIC ELECTRICITY is a well-known natural occurrence created either by separation of two unlike substances, or the juxtaposition of two like substances. Normally, every body contains an equal number of protons and electrons, but it is possible to remove or add electrons to a body. A body containing unequal numbers of electrons and protons is said to be electrically charged. For instance:

A body contains less than its normal number of electrons. It is positively charged.

A body contains more than its normal number of electrons. It is negatively charged.

Bodies which are not electrically charged neither repel nor attract each other. The forces of attraction and repulsion are said to be in equilibrium.

10 Causes of Static Troubles


Rush of steam, air, or inert gases from open jets, etc., creates "frictional electricity" that charges near-by insulated objects.
Two dissimilar materials—such as fabric and varnish — move into contact, or apart, thereby building up static charges on both.
Moving vehicle, like plant truck, gathers static if tires, floors are nonconductors.
Liquids poured into tanks, flow through pipes and hoses, to generate static that accumulates on fluid surfaces, container walls.
Travel of belts over pulleys or rollers for power transmission and conveying is action that sets stage for real static trouble.
Walking over nonconductive surface, when shoes are nonconductors, makes human body an electrical storehouse. Person standing still also can get shock from charged object.
Dipping, rinsing, or wringing cloth in flammable fluids generates static electricity.
Change from wet to dry condition of material being processed produces heavy static.
Handling dust and fibers — in blower systems, for instance — electrifies particles.
Filtering liquids through such materials as chamois or cloth forms electrostatic charge.

Courtesy, Gibbs Mfg. and Research Corp.

The A B C's of Alpha

POLONIUM is a decay product of the uranium-radium series. It is essentially an alpha particle emitter, irradiating alpha particles of approximately 4 million electron-volts energy. The alpha particle has a mass which is four times greater than that of the hydrogen atom, and a positive charge which is twice the charge of an electron; their velocity, in the case of polonium, is more than ½ the velocity of light. This velocity enables the particles to traverse about 4 cm of air.

During their passage through air, the particles ionize the gas molecules forming positive and negative ions. Therefore, near alpha particle sources, the air loses its insulating properties and becomes conductive, thus dissipating the accumulation of static electricity in nearby objects.

One alpha particle of polonium produces during its path through air, 150,000 ionpairs. One millicurie of polonium plated on a metal foil emits $1.85 \cdot 10^7$ alpha particles per second. In total, from one millicurie of polonium, $2.8 \cdot 10^{12}$ (about three trillion) ionpairs are formed per second.

The quantity of static electricity which can be eliminated within a certain time interval depends upon the intensity of the alpha particle radiation. The ionization effect of an alpha particle source is limited to the range of the alpha particles. However, if the ionized air is in motion, which will occur in the vicinity of machines in operation, the ionized air is transmitted through appreciable distances.

In order to arrive at an idea of the order of magnitude of the static charge which can be dissipated by the Alphatron static eliminator, it is to be pointed out that the current produced by one millicurie of polonium is $4.4 \cdot 10^{-7}$ ampere at saturation voltage. Saturation voltage is the voltage necessary to draw all the ions out of the field immediately upon formation so that no losses through recombination can occur.

The respective field strength is approximately 300 volts per cm for one millicurie polonium coated on one square inch of metal strip. Therefore, the formation of $4.4 \cdot 10^{-7}$ coulomb per second (amperes) can easily be dissipated by the Alphatron. This accumulation of static electricity if not dissipated would lead within one minute to voltages of about 12 million volts which would signify a potential danger (assuming a capacity of 20 MMF per square inch).—Dr. Marietta Blau, Director of Research, Gibbs Manufacturing and Research Corp.

Textron's Willimantic Tricot Plant finds

EXCLUSIVE

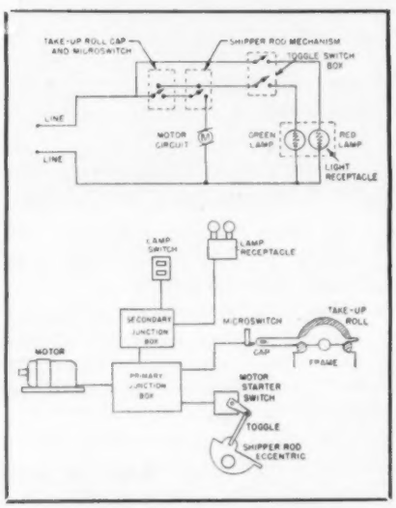
Annunciator System Saves Time

Staff Prepared

INDICATOR lights installed on machines at the Textron Tricot Division of Willimantic, Conn., are contributing to greater plant efficiency. Signalling non-operative tricots, the annunciator system saves valuable time for machine tenders, knitter mechanics, and foremen.

The mill's 24 Reiner 168-inch tricots are equipped with red and green lamps mounted high above each machine, visible from every section of the knitting room. By using lights, tenders can call for mechanical aid without leaving a four-machine station. The quality of tricot knits on the other machines in normal production is thus not endangered by disrupted examinations.

Foremen and fixers are instantaneously informed of machines demanding immediate attention. Supervisors are enabled to quickly survey the entire plant operation without time consuming and often fruitless inspection tours. Tricots, characterized by a high rate of output offset by an appreciably high investment, must be kept running to make a profit for the owners. With these lights, there is a significant decrease in down-time, adding a substantial boost to production.



Top, schematic electrical circuit. Bottom, diagram of parts.

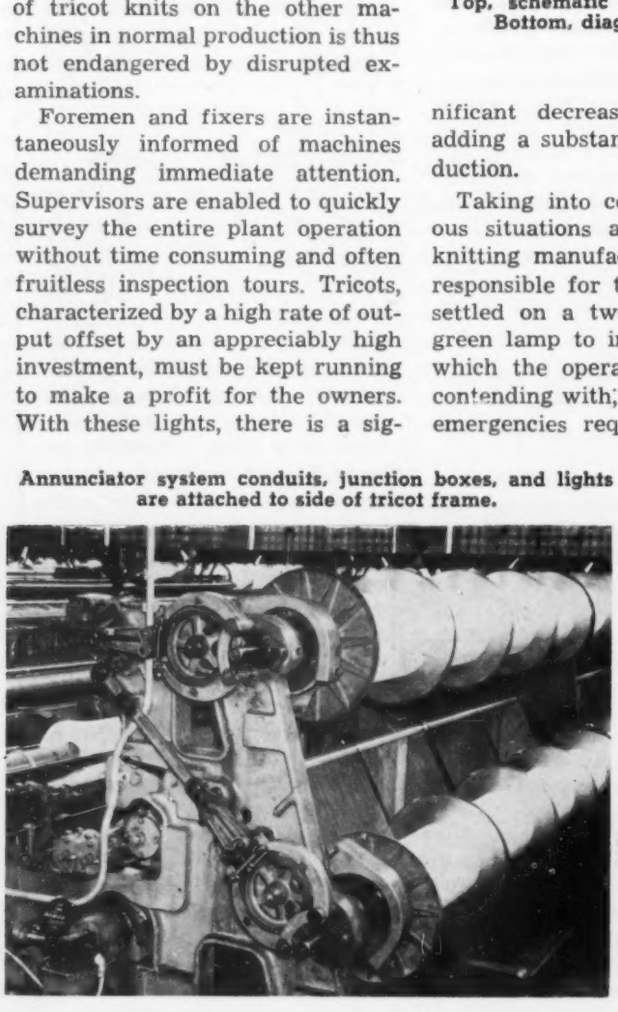
Taking into consideration various situations arising in routine knitting manufacture, supervisors responsible for the signal devices settled on a two-lamp system; a green lamp to indicate conditions which the operator is capable of contending with; and a red one for emergencies requiring help from other personnel. The green lamp flashes automatically when a machine stops but the red lamp must be switched on manually by the tender. The green light will flash when:

1. Preset number of racks is completed.
2. Machine stopped by shipper rod transfer.
3. Take-up roll caps are lifted.

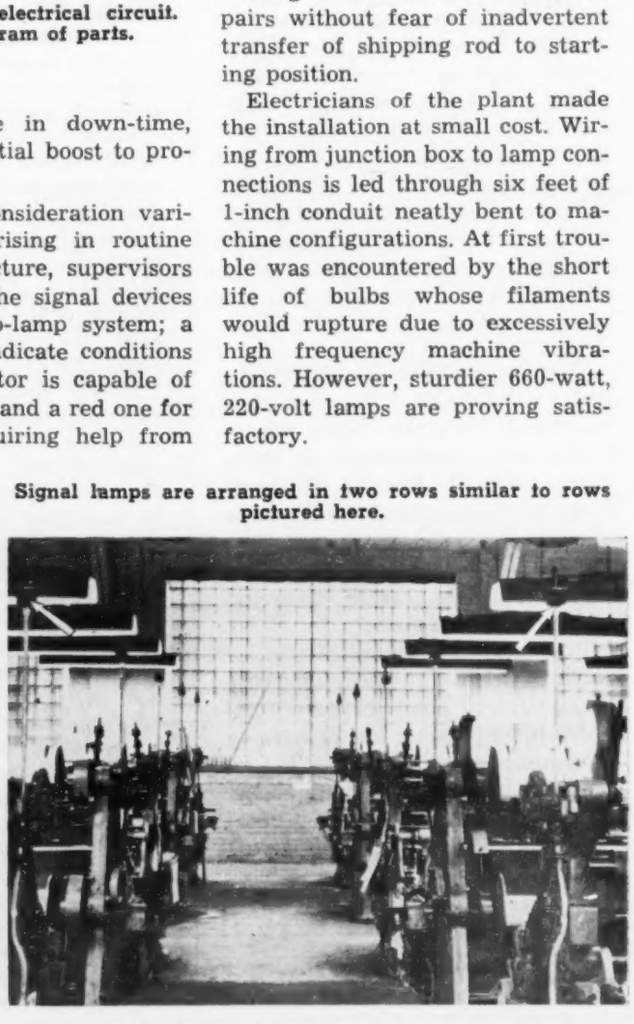
An extra safety feature has been added by connecting the take-up roll cap and light circuit with the motor starter circuit. In this manner the tricot will not function while caps are lifted, thereby permitting a mechanic to make repairs without fear of inadvertent transfer of shipping rod to starting position.

Electricians of the plant made the installation at small cost. Wiring from junction box to lamp connections is led through six feet of 1-inch conduit neatly bent to machine configurations. At first trouble was encountered by the short life of bulbs whose filaments would rupture due to excessively high frequency machine vibrations. However, sturdier 660-watt, 220-volt lamps are proving satisfactory.

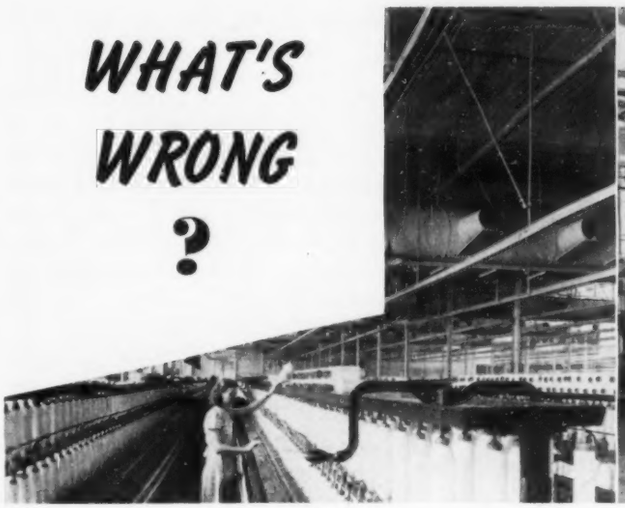
Annunciator system conduits, junction boxes, and lights are attached to side of tricot frame.

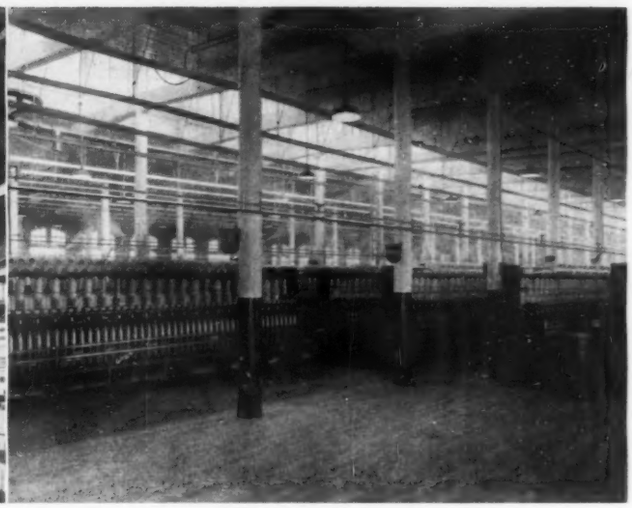


Signal lamps are arranged in two rows similar to rows pictured here.



WHAT'S WRONG ?





With Textile Mill Air Conditioning

By DAN McCONNELL
Plant Engineer
Cone Mills Corporation

A mill man tells frankly and plainly what is wrong with mill air conditioning and what can be done about it.

SPEAKING as a mill man, air conditioning is but one of the tools we use in processing a rather cranky fiber. Sometimes this fiber doesn't run right, and sometimes the air conditioning is partially to blame. It is not up to me to decide the proper percentages of humidity to be run in various rooms; that is the function of the textile operating man; it is the plant engineer's job to give him what he must have to make the work run right.

What we want is the most air conditioning we can get for the least possible money, with a minimum of maintenance, and the fewest possible fancy gimmicks to go wrong.

The history of humidification is an old story. First, it was geographical location; then it was wet floors; then it was steam pots; and then it was a very crude central station. Then we went to various kinds of unit systems of fan heads and atomizers, and now we seem headed back to duct systems and variations of them.

In the cotton mills a rather dim view is taken of systems using circulating water exposed to the air stream. I know I am laying myself open to a lot of commercial pressure by this remark, but I would like to advance my personal prejudices on this point. We feel that where you beat the same water half to death, round and round through a system, it picks up all the entrained junk, fly lint, hair, size flakes, and dead cats that might be floating around in the mill. You are bound to pick up things that will eventually give you trouble in the return lines and plug them up. You can install floor drains and traps from one end of the mill to the other, but overflow will eventually find a hole and will invariably run over on a warp.

Part of the trouble with circulating systems comes from technical advances in the processing of cotton. In the old days of short draft spinning and slow-speed looms, there was not a great deal of fly lint. Now, the spinning rooms operate with long draft which literally blows the roving apart to make a finer yarn in one pass. A lot of fly goes into the air. This fly settles on the frames; lint gathers and falls into the yarn, either breaking down an end or making a gout.

So along comes a fine idea—the

Based on a talk made by the author before the Carolina Section, American Society of Refrigerating Engineers in Greensboro, North Carolina.

installation of circulating blowers to blow this fly lint off the frames and keep it circulating through the air. This same fly goes through the humidifiers, is trapped in the water sprays, and proceeds to cripple the drain lines as well as any part of the humidifying surface that is wet.

Weave Room. The same thing has happened in the weave room. The looms used to rock comfortably at about the same speed mother made in her rocking chair; but along came improvements, and the looms now thrash about at a speed which scrapes off more fly and size flakes than before and throws them into the air with real vigor.

The cotton fiber in fly lint is kinky, and this causes it to felt and mat either when wet or dry. A few fibers get caught on a surface, collect enough of their friends to make a sizable group, then come loose and pass on through the air conditioning system.

Algae from Size. The size on weave room fly is no help, as this material in circulating water held at a reasonably constant temperature is one of the finest culture media you can possibly dream up. All sorts of algae and slimes grow in the water, and some of them stink like the devil. You can dose these stinkers with slug chlorination, with ammonium compound, with various things that come in barrels with nice printed labels—and sometimes it kills them and sometimes it doesn't. This is a nice problem for the bacteriologist, for the chemist, but primarily for the maintenance man who must keep the system going. Paying a man $1.50 to $1.75 an hour is right steep for scraping out lint junk and throwing it away.

Is there any other way we can get it out? I don't know. Presently this operation is entirely manual, and it may be that it can be made at least partially automatic at a reasonable price. That is one for the designers to look into.

Air Distribution. Let's look at another thing that is productive of a lot of turmoil and confusion—air distribution. In a cotton mill a large part of the machinery is vertical, and some of it is considerably higher than my head. But most of the work being done on the cotton fibers takes place at about the level of my knees. Maybe we have been missing our objective by throwing our conditioned air around in the top of the room and then trying to put a curve on it with various devices to make it come down where we want it. We have worked with nozzles, grilles, rotating devices, and with practically all air movements except those of a hula dancer. I am wondering if any thought has been given to carting the air into the machinery precisely where we want it.

One problem is the high air currents produced if distribution outlets are set so as to produce swirling. Also, a low velocity of air across certain parts of high creels in a fine yarn spinning room can cause considerable consternation.

While we are doing pretty well with the present methods, I wonder if we are doing the best we can. It would be most interesting to figure the relative velocity of the convection currents moving vertically upward over the motor alley in a spinning room as compared to convection currents elsewhere in the room. I have often wondered if this would not explain some of the screwball hot spots the overseers are always yapping about.

Temperature. And now this business of temperature—wet bulb—dry bulb—or the widely discussed effective temperature. Effective temperature is quite masterfully covered in a bulletin, "Air Conditioning and Textile Mills, the Case for Temperature and Humidity Control to Provide Comfort, Health, Safety, and Optimum Production," a CIO Research Department Technical Report. Effective temperature is important, and we want to keep the room as comfortable as possible for the people working in it, but comfort conditioning and the most efficient conditions for production are not always the same thing.

I have no information on the pliability of yarn at various dry bulb temperatures, but if we were to follow the sample law contained in the bulletin, we might get into legislation setting temperatures at values which will cut down mill efficiency.

We have a mill in our group which has a very high and consistant production from the weave room, and this particular room operates at a relative humidity which is very high. Dry bulb temperature is also high. In checking on this condition I asked the superintendent if he couldn't cut down a little on his humidity and temperature. The answer I got from a man 45 years in the cotton mill was unique, but there may be a lot to it.

"Cotton," he said, "is a hot weather crop. Being a country boy, you know that cotton doesn't grow good until it is so hot you got to sleep with your shirt-tail up over your shoulders. It acts the same way in the mill, and if you let it get too cold, it gets stubborn, and it doesn't bend good when the harnesses hit it."

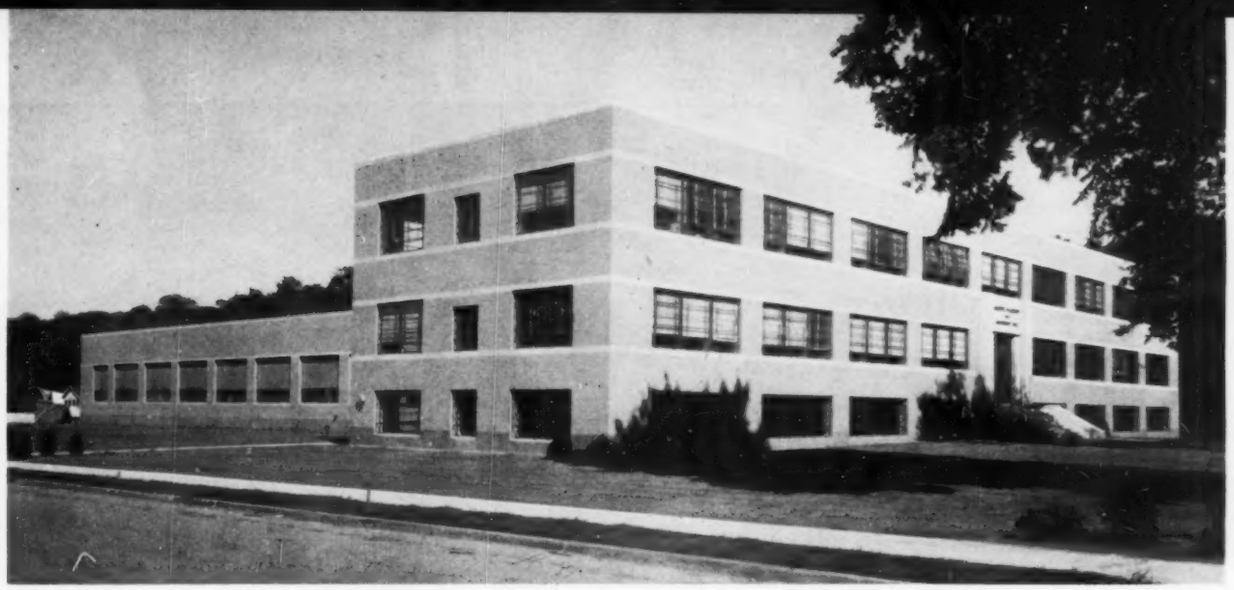
If you get technical and monkey around with the temperature in this room, you will find that "Cotton is a hot weather crop" by about 3% in loom efficiency for every five degrees in dry bulb temperature.

It could be that we have certain types of rough, bristly cotton that require certain humidities and temperatures not completely in agreement with the ideal comfort conditions. A law specifying certain conditions could cut down on production.

Controls. There are some control devices with which we are not too pleased. A man with greasy hands can't go into them and change the calibration without lousing up the sensing element. There are other control devices which burden the sensing elements with heavy mechanical loads. Anything used to measure as much of a phantom as humidity ought to be under no more pressure than a poet with both feet planted firmly on a cloud. We have been working some of our poetic sensing elements under sledge hammer conditions.

On the other hand, if controls are too fussy and too delicate most of the maintenance men have a hard time handling them. How would it do to mount all the delicate stuff in a little package so

(*Continued on page* 106)



Cluett, Peabody and Co., Inc., Research and Science Building.

Cluett, Peabody Encourages Research

Troy, N. Y., is site of new research center.

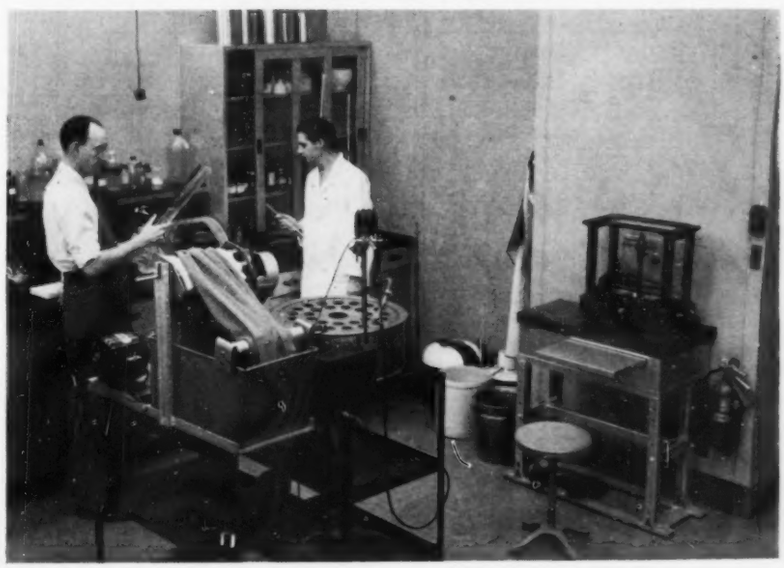
Staff Prepared

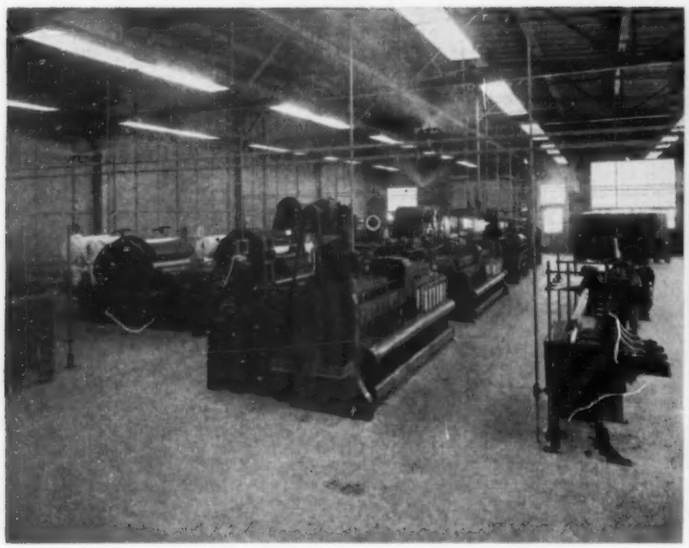
A MILLION dollars and a decade of planning underwrite Cluett, Peabody's new Research and Science Building in Troy, New York. More than 35 major items of textile mill machinery contribute to make this plant an outstanding addition to the industry's technological forces.

Besides numerous laboratories devoted to fundamental studies, the huge research factory covering 49,878 square feet contains the latest wet and dry finishing equipment. A versatile textile pilot plant is furnished with typical picking, carding, spinning, and weaving machinery built to rigid specifications as dictated by the exacting nature of experimental work. The installation serves as a model mill capable of producing a fully finished garment from a variety of raw fibers.

Divisions of Research. E. C. Pfeffer, Jr., director of research, has already mobilized his newly formed staff and facilities for such high priority investigations as the stabilization of woolen fabrics and rayons, the development of crease resistant cottons, and the improvement in luster and appearance of cotton goods. Also on the agenda are projects for bettering fabric finishing methods and yarn spinning techniques. Four functional groups within the organization are

Wool Chemical Process Laboratory in the Research and Science Building. The S. W. Process for wool shrinkage control was evaluated here.





Versatile textile pilot plant simulates small mill.

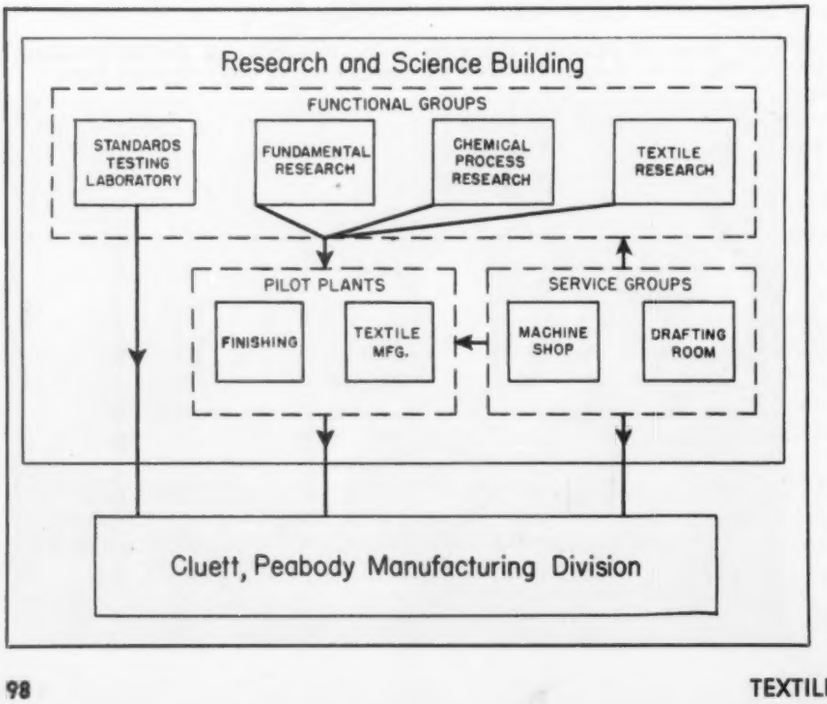
Interior view of pilot plant wet finishing section.

combining talents to solve these basic chemical and mechanical process problems.

Three of the groups are primarily devoted to fundamental research in chemical processing, textile manufacture, and general phases of the industry. Quality control and product engineering is emphasized within standards testing laboratories. Here, policing of products made by licensees of Cluett trademarks is conducted. Technical assistance to the many departments (purchasing, public relations, manufacturing, etc.) of the manufacturing division is another important function of the standards laboratories.

Machine shops and drafting rooms equipped to handle a great majority of work orders from both research and manufacturing divisions complement the science installation. Extensive technical libraries and administrative offices make up the remainder of the organization, along with housekeeping and power plant sections.

Chart showing organization of research group.



Construction Features. Provisions for rearranging laboratories and offices as new situations demand are unlimited due to Hausermann movable flush metal partitions used throughout the building. Highly flexible, these walls may be dismantled with nothing more complicated than a screw driver.

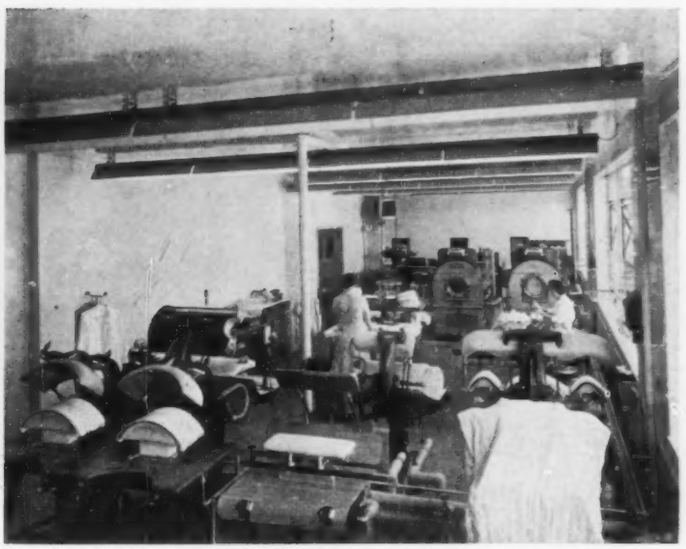
Vacuum, air, gas, steam, and hot and cold water pipe lines are built so that no matter how partitions are oriented, every laboratory is assured of utilities. Each room has its own thermostat. The first and second floors are heated by convector elements with steam provided by two Farrar and Trefts 125-pound pressure boilers, also providing process steam. The fuel is oil. Ceilings are Johns-Manville Sanacoustic tile.

Several of the laboratories are air conditioned. However, the building has a forced draft ventilation and exhaust system which may also be used for heating fresh air to the desired temperature.

Structural glass predominates a large part of the building. The pilot plant roof is insulated with 2 in. of Pittsburgh Corning Foamglas, a cellular glass in the form of large lightweight blocks, each composed of millions of minute, air-filled glass cells. It is highly resistant to moisture, fumes, vapor, and acid atmospheres.

Thermo-pane has been installed in three rooms of the pilot plant and in three air-conditioned lab-

Dry finishing section of chemical process plant.



Laundering plant where wash durability is tested.

oratories. Prismatic glass blocks by Owens-Illinois are built into the pilot plant. The blocks assist in lighting the area more efficiently since they are designed to direct natural light to the ceiling, thus supplementing fluorescent lighting.

The structural steel building with reinforced concrete floors is 100 per cent covered by sprinklers. The entire building, measuring 189 feet across the front and 262 feet deep from the back to the front, is set on 256 Raymond Step Taper Concrete Piles, each capable of bearing 55 tons. Some are as deep as 27 feet.

Stains and Foreign Matter on Cotton

(*Continued from page* 89)

ly about cotton stained by asphalt coated bale ties. The Cotton Council, therefore, has labored to bring about a solution to this vexing problem. As a result of industry-wide cooperation with the Council's campaign, asphalt damage should be reduced to a minimum in the current crop. No ties have been coated by bale tie manufacturers since May 1948, and, as a result, very few asphalt coated ties will be used in the 1949 crop.

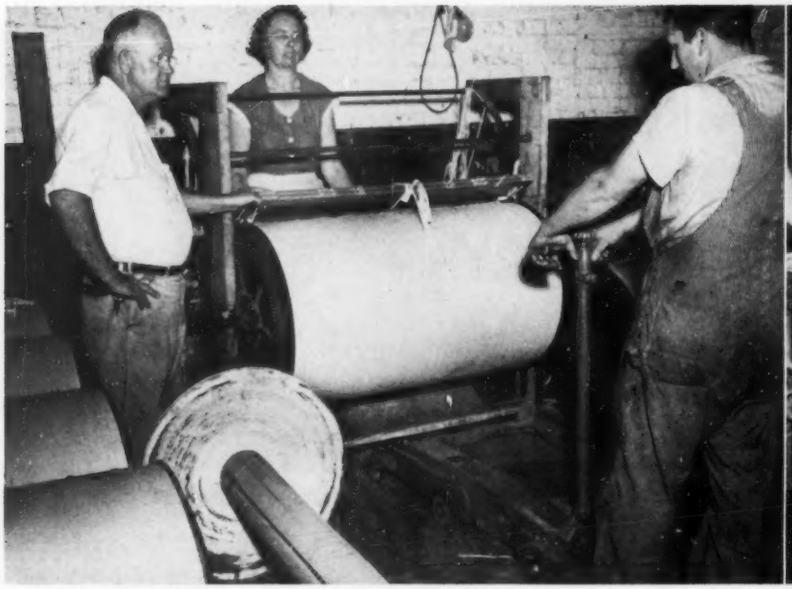
As a further means of reducing damage caused by asphalt coated ties, the Council is enlisting the cooperation of cotton mill operators in selling coated ties as scrap metal rather than for reprocessing and use on subsequent crops.

New Bale Tie Coating. A new tie-coating which does not stain cotton has been developed but has not been thoroughly tested. The manufacturer of the coating says it is practically the equal of asphalt paint in preventing rust and leaves no stains on finished cloth. The material is fluid in consistency and can cover more ties per gallon than asphalt paint. It dries rapidly, is not sticky at high temperatures, is practically colorless in a thin paint film on the ties, and when dry is wax-like and sticks tightly to the tie. It will not crack away from the metal. Cotton fibers, even under high pressure, tests revealed, do not stick to a bale tie coated with the new formula.

Identification Marks. Marking inks and paint at one time were responsible for staining large amounts of cotton. Large identifying numbers and letters were sloshed on the bale with inks or paint which struck through the bagging and soaked into the cotton. Since the marking materials were usually insoluble, the stained cotton had to be discarded at the spinning mill, causing loss in cotton and additional labor for sorting.

Fortunately the practice of marking cotton with inks and paints is outmoded in most of the Cotton Belt. Gin and warehouse identification tags are replacing the marking brush. In a few areas, however, the old method of marking bales still is being followed. Complaints still are being voiced by mills which received cotton damaged by this obsolete method of identification. Wastefulness of inking or painting is being emphasized in a current Cotton Council educational program directed to ginners.

Broad Educational Program. As part of its program to encourage better preparation of cotton for market, the Council is reminding producers, ginners, warehousemen, and transporters that cleaner cotton strengthens cotton's competitive position and eventually means greater profits for the entire cotton industry. It is pointing out how lint may be damaged and how spots in textiles may result when cotton is handled carelessly.



A TYPICAL APPLICATION of the jack is the removal of loom beams from drawing-in frames and transportation of beams to the weave room.

WIDE ALLEYS are not necessary for movement of beams when this jack is used.

Hydraulic Jack Simplifies Beam Handling

Staff Prepared

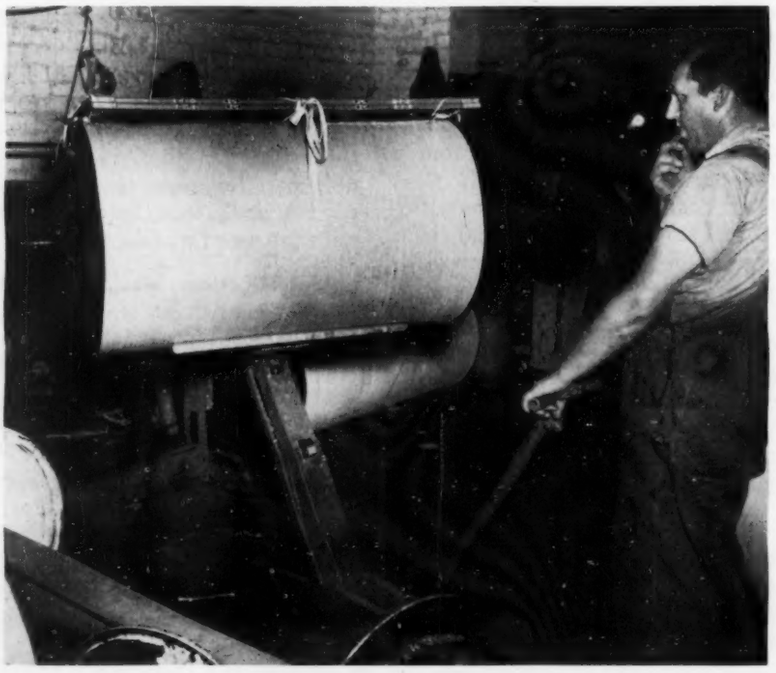
EXCLUSIVE

A SMALL mobile hydraulic jack is in use at a number of mills, thereby simplifying some of the problems encountered in beam handling. The jacks have saved time and labor in many applications.

At one mill, jacks are used to carry beams from the drawing-in room to the looms (see photos).

The jack can raise a beam approximately four feet above floor level and has a tray which can be rotated to any desired position. The beam rests in the tray which serves as a support. Silent casters allow the jack to be moved easily from place to place while either loaded or unloaded. Jack is ideal for manipulating in narrow alleys in the weave room where there is little space for maneuvering. J. W. Lewis and Company, Spartanburg, S. C., is one supplier.

Hydraulic jack can be used to elevate beams approximately four feet above floor level. The jack is extremely versatile and has a tray or cradle to support the beam which can be rotated 360 degrees to any desired position.



Increasing Mill Production Through

Effective Instrument Maintenance

Part 2*

By E. A. MURPHY

Minneapolis-Honeywell Regulator Co.
Brown Instruments Division

THIS IS the second of three articles on instrument maintenance. In this installment the author has covered various considerations for flow meters, including connecting piping, calibration, maintenance checks, operating errors, and helpful suggestions for trouble shooting.

THE DIFFERENTIAL pressure or "garden variety" type of flow meter is frequently accused of erratic operation when the fault lies, not in the instrument itself but in the way it is installed or maintained.

Here again the main stumbling block is usually a lack of knowledge of the basic principles involved in the operation of the instrument. As its name implies, operation of a flow meter is based on the relation between the rate of flow of a fluid through a pipe, and the pressure loss as that fluid passes through a restriction in the flow pipe. Actually, this pressure loss is proportional to the square of the velocity of the fluid through the restriction; i.e., the higher the velocity, the greater the pressure drop.

Although many types of restrictions, such as flow nozzles, venturi tubes, and pitot tubes, are used to create the desired pressure drop in the flow line, orifice plates are by far the most widely used. As shown in Fig. 3, the orifice plate is set rigidly into the flow line. A high pressure will exist upstream from the orifice plate, while a lower pressure will exist downstream. The difference between these two pressures will vary as the rate of fluid flow varies.

Holes carefully tapped into the main flow line at measured distances upstream and downstream from the orifice plate are connected by means of piping to the high and low pressure sides respectively of a meter body which is roughly "U" shaped and which contains a definite amount of mercury. A metal float rides on top of the mercury in the high pressure side of the meter body.

With fluid flowing through the pipe as shown in Fig. 3, a pressure difference is established between the high and low pressure taps, and the amount of this difference is measured by vertical movement of the float in the high pressure side of the meter body. As the fluid flow rate increases, the differential pressure increases and the float moves downward. When the flow rate decreases, reverse float movement takes place.

The position of the float, which is established by the rate of flow of the fluid, is usually transmitted to the indicating or recording instrument in one of two ways. In the electric flow meter, pictured in Fig. 3, an armature mounted above the float moves up and down inside a pair of externally mounted electric coils, and float position is transmitted electrically

*Part 1 appeared in the November 1949 issue, page 87.

Fig. 3. Typical differential pressure type electric flow meter installation, showing orifice plate, high and low pressure taps, connecting piping, and manometer or meter body.

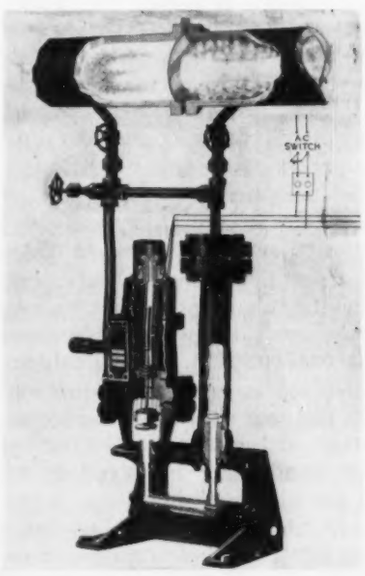
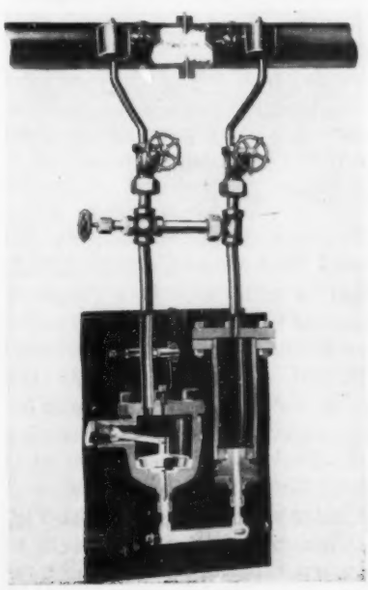


Fig. 4. Rear view of mechanical flow meter, showing meter body mounted back of instrument.



to a remotely located indicating or recording instrument. In the mechanical type flow meter, illustrated in Fig. 4, the indicating or recording instrument becomes an integral part of the meter body, and float position or movement is transmitted mechanically through a pressure-tight bearing.

Changes In Flow Conditions Affect Meter Calibration. A point sometimes overlooked by mill personnel is the fact that the calibration of every flow meter, as supplied by the manufacturer, is based on a given set of process conditions such as pressure, maximum and minimum flow rates, specific gravity of measured liquid, flow conditions upstream and downstream from the orifice plate, location of the pressure taps with respect to the orifice plate, and several others. All of this information is requested by the meter manufacturer before the flow measuring system is engineered, and the system supplied is calibrated to read flow correctly only under these conditions.

If the flow meter is moved from the original installation to another where different flow conditions exist, or if one or more of the conditions specified for the original installation change, the meter will read incorrectly.

Occasions have arisen where instrument service engineers investigating complaints of unsatisfactory flow meter operation have found the trouble caused by changes in flow conditions and not by incorrect operation of the meter itself. Any changes in processing conditions which will introduce corresponding changes in one or more of the flow conditions under which a flow meter was originally installed, should be reported immediately to the instrument maintenance department so that any necessary alterations in orifice plate or range tube size, locations of pressure taps, or meter calibration can be made.

Proper Installation Essential. Since a flow meter can provide accurate readings only if it is able to measure the true pressure drop across the orifice plate, i.e., the pressures present at the high and low pressure taps, it is evident that any factor tending to interfere with this measurement will affect the accuracy of the instrument. When a flow meter is installed, the primary sensing element (the orifice plate) should receive first consideration.

An orifice plate is a carefully machined disc or plate having an accurately sized hole bored through its center (concentric orifice plate). The hole in the plate is made so that its circumference presents a square sharp edge on the upstream side, and a beveled edge on the downstream side. If the plate is reversed on installation, the flow meter will read low for all rates of flow.

Flow Disturbances Should Be Eliminated. In order for a differential pressure type flow meter to provide accurate measurement, the metered fluid should flow very nearly parallel to the axis of the pipe without any swirling or turbulence for certain distances upstream and downstream from the orifice plate. These distances are specified by the instrument manufacturer and should be closely adhered to when the measuring system is installed.

Any deviation from the specified conditions, such as reducing the uninterrupted straight runs of piping from the orifice plate or installing elbows, valves, or regulators in that section of piping upstream from the orifice plate designated as uninterrupted straight piping, will cause flow disturbances which will adversely affect accuracy of measurement. This condition can not be corrected for through any adjustment of the meter body or instrument. The inaccuracy will be particularly serious if the fluid being measured is a gas.

Pressure Taps Should Be Installed With Care. Careless installation of pipe taps is a frequent source of trouble. Locations for the taps should be carefully measured up- and downstream from the orifice plate. When the proper locations have been marked, the pipe taps should be installed so that the nipples do not project beyond the inner wall of the pipe (see Fig. 5). This is sometimes difficult to do when tapping into a pipe having a very thin wall.

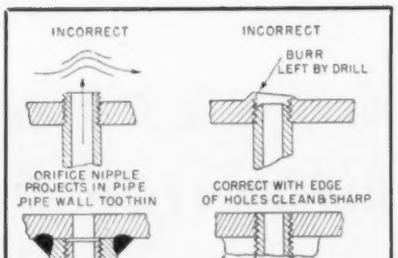

INCORRECT
INCORRECT
BURR LEFT BY DRILL
ORIFICE NIPPLE PROJECTS IN PIPE PIPE WALL TOO THIN
CORRECT WITH EDGE OF HOLES CLEAN & SHARP
ONE CORRECT METHOD USING HALF COUPLING
BUILD UP METAL WITH TORCH TO OBTAIN THICKNESS FOR SUFFICIENT THREADS

Fig. 5. Correct and incorrect methods of installing pipe taps.

When such a situation arises, sufficient thread surface for the pipe tap nipple can be obtained either by building up the outer wall of the pipe with a welding torch, or by welding a half coupling to the outside of the pipe (see Fig. 5). Any burrs left on the inside of the pipe as the result of drilling and tapping operations should be removed. It is well to remember that any irregularities such as burrs or file marks on the inside of the flow line can cause errors in flow readings.

Connecting Piping Can Cause Errors. The term "connecting piping," as used herein, includes all sealpots, condensers, valves, fittings and piping between the primary sensing element (orifice plate) and the meter body.

When the metered liquid is a gas or a fluid which has a tendency to vaporize or condense under normal operating temperatures, it is common practice to employ condensers between the pressure taps and the meter body. The metering of steam is an excellent example. Since the connecting piping and meter body will always be at temperatures below that of the steam in the flow line, condensation will continue to take place until the meter body and both the high and low pressure piping are filled with condensate. This condensation is not likely to take place at equal rates in both high and low pressure sides of the system, and consequently slightly more condensate may collect in one side of the system than in the other. The resulting hydrostatic head will be added to the pressure

measured at the pipe tap and will cause the meter to read in error.

The correct use of condensers, as illustrated in Fig. 4, eliminates this possibility of error. Located on the same level, the condensers are partially filled with water. Since the meter body and connecting piping are also filled with water, both high and low pressure sides of the meter are subjected to equal hydrostatic heads, and float movement will be caused only by actual changes in the differential pressure measured across the orifice plate.

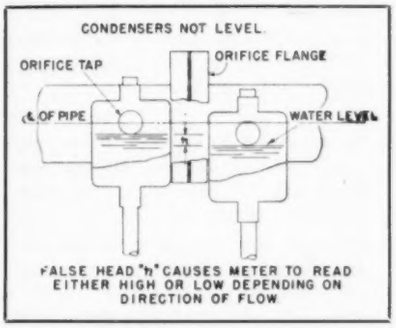

CONDENSERS NOT LEVEL
ORIFICE TAP
ORIFICE FLANGE
℄ OF PIPE
WATER LEVEL
h
FALSE HEAD "h" CAUSES METER TO READ EITHER HIGH OR LOW DEPENDING ON DIRECTION OF FLOW

Fig. 6. When condensers are not level, false head (h) introduces meter error.

Improper installation of the condensers, however, will do more harm than good. Fig. 6 shows condensers not properly leveled. In this case, a head of water **h** is applied to one side of the meter body, introducing a constant error. With a meter having a full scale range of 50 inches of water, a difference of level of ½-inch (**h** in Fig. 6) will result in a meter error of 10 per cent of full scale under zero flow conditions.

When the orifice plate is located in a vertical steam flow line, as shown in Fig. 7, it is advisable to employ lagging or insulation around the bent nipple. If this is not done, the bent nipple may become filled with condensate as illustrated. When this happens, head of condensate **h** cancels head **h** in the line to the meter and incorrect flow readings will result.

Piping Should Be Self-Venting or Self-Draining. When liquids are being measured, a frequent cause of meter error is air or gas trapped either in the meter body or in high spots in the connecting piping. Since air and gases are compressible, and, for practical purposes, liquids are not, small changes in differential pressure caused by changes in the flow rate can be absorbed by the air bubble or cushion, and consequently will not be reflected in the meter reading.

This type of error can be prevented by installing the connecting piping so that it is self-venting, i.e., by locating the meter body below the orifice, and sloping the piping uniformly upward from the meter body to the pressure taps. In this way, any air or gas bubbles will automatically rise and be expelled into the flow line. If it is impossible to avoid high spots in the connecting piping, vent cocks should be installed at these points and should be opened periodically to release any trapped air or gas.

When air or gases are being measured, trapped liquid rather than gases can cause trouble. Unless the piping is self-draining, i.e., the meter body above the orifice, and the piping sloping uniformly downward from the meter body to the pressure taps, condensed liquid

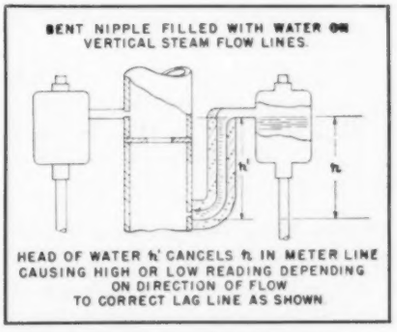

BENT NIPPLE FILLED WITH WATER ON VERTICAL STEAM FLOW LINES
h'
h
HEAD OF WATER h' CANCELS h IN METER LINE CAUSING HIGH OR LOW READING DEPENDING ON DIRECTION OF FLOW
TO CORRECT LAG LINE AS SHOWN

Fig. 7. Error introduced by formation of condensate in bent nipple on vertical steam flow line.

can collect in one side of the meter body, thus creating a false head and giving rise to incorrect meter readings.

Seal Entire System Against Leaks. The entire system of connecting piping should be carefully sealed against leakage. Since, for low flow rates, the differential pressures measured are very small, it is evident that even the slightest leakage in any of the valves or pipe connections can cause erratic flow readings.

Keep Meter Body Level. The mercury in the meter body, which is responsible for float movement, is located in the bottom and part of each leg of the "U" shaped meter body. If the meter is not installed in a level position, the mercury will shift to one side or the other, changing the vertical position of the float and introducing an instrument error.

Operating Errors. With the primary measuring element, the connecting piping, and the meter body correctly installed, the meter is in a position to provide accurate flow measurement. Proper installation, however, is not in every case sufficient to insure continuous trouble-free operation over an extended period of time. Under continued operation, the orifice plate, connecting piping, and meter body are usually subjected to operating conditions which necessitate a certain amount of periodic maintenance.

Orifice Plates Sometimes Give Trouble. Operating conditions in the flow line sometimes affect the shape of the orifice plate, causing meter errors. These conditions are not encountered frequently in the mill, but when they do occur they are serious.

The most common causes of orifice plate trouble are shown in Fig. 8. When the metered fluid contains abrasives, rounding of the upstream edge sometimes takes place. This will cause the meter to read low. An accumulation of solids on the upstream side will also cause a low meter reading. Warping or buckling of the plate and wire drawing may cause either

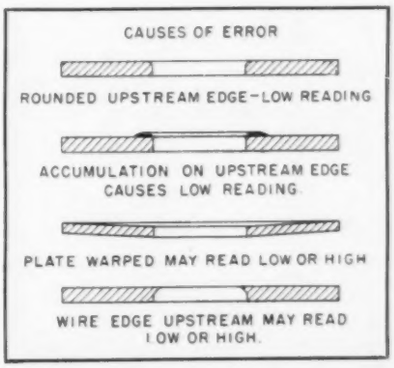

CAUSES OF ERROR
ROUNDED UPSTREAM EDGE—LOW READING
ACCUMULATION ON UPSTREAM EDGE CAUSES LOW READING
PLATE WARPED MAY READ LOW OR HIGH
WIRE EDGE UPSTREAM MAY READ LOW OR HIGH

Fig. 8. Orifice plate conditions which cause flow meter inaccuracies.

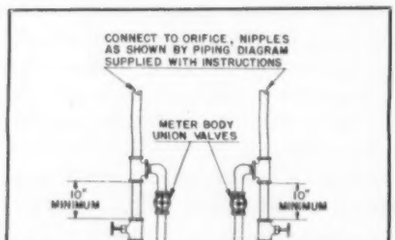

CONNECT TO ORIFICE, NIPPLES AS SHOWN BY PIPING DIAGRAM SUPPLIED WITH INSTRUCTIONS
METER BODY UNION VALVES
10" MINIMUM
10" MINIMUM
½" GATE VALVE
TO METER BODY
½" GATE VALVE
TO SEWER OR DRAIN
FIG. 56-S-96
INSTALLATION OF BLOW DOWN PIPING

Fig. 9. Piping diagram for permanently installed blow-down system for flow meters.

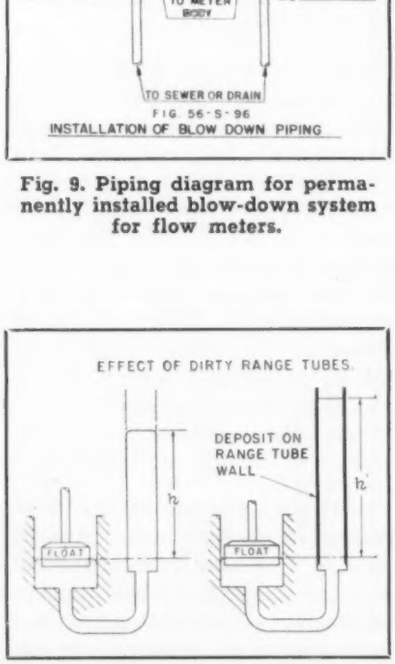


Fig. 10. Effect of dirty range tube on flow meter accuracy. Meter will read low by an amount equivalent to h'-h.

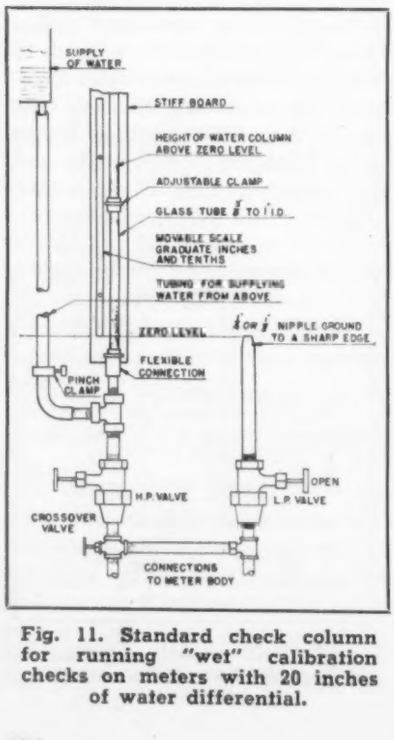


Fig. 11. Standard check column for running "wet" calibration checks on meters with 20 inches of water differential.

high or low meter readings.

With the exception of an accumulation of solids on the orifice plate, these conditions can be corrected only by the installation of a new orifice plate. Accumulated solids can usually be removed by means of some solvent. If the use of a solvent is not practicable, a large flat stone rather than a file should be used to remove the solids to avoid any possibility of rounding the upstream edge.

Connecting Lines Should Be Cleared Periodically. All connecting lines should be blown down periodically to prevent clogging. Installation of auxiliary blow-down lines, as shown in Fig. 9, facilitates this operation. When the measured fluid contains large amounts of dirt or silt, the 10-inch lengths of ½-inch pipe should be replaced by 30-inch lengths of 2-inch pipe. When wrought iron or steel connecting piping is used, it is advisable to check the nipples from the steam line for rust and stoppage when the lines are down, or at least every six months. This is especially important in the case of high pressure steam. A rusted or corroded nipple which "lets go" on a 150 psi steam line can cause a serious accident.

It is recommended that copper tubing with compression fittings be used wherever possible because of its ease of installation and freedom from corrosion.

Meter Body Maintenance. If the meter body is to indicate accurately the pressure differential across the orifice, both the meter body and the mercury should be clean. The effect of a dirty range tube (low pressure side of the meter body) is illustrated in Fig. 10.

The deposit built up on the inner wall of the tube acts to decrease the inside diameter and cause the mercury to rise higher in the tube. This, of course, creates a false head of mercury equal to **h'—h** which causes the float to rise higher and produces a low meter reading. Correct operating conditions can be assured by checking the meter on zero, cleaning it, and checking the calibration. Details of such a program include:

1. **Meter body should be equalized and checked on zero at least weekly.** Equalization is accomplished by closing the hand valves at both high and low pressure taps, thus isolating the meter from the flow line, and then opening the equalizing valve which places both high and low pressure sides of the meter body under the same pressure. Shut-off and equalizing valves are shown in Figs. 3 and 4. Any tendency of the zero to shift suddenly or to drift continuously up- or down-scale indicates trouble. This trouble may be caused by: (a) leakage; (b) meter body not level; (c) dirt in meter body. If the trouble persists after the connecting piping has been carefully checked, the meter body should be disconnected and cleaned.

2. **In cleaning the meter body, experience will usually dictate how extensive a job must be performed.** When only silt, loose scale, or mud is found in the meter, thorough flushing with high pressure water will usually suffice. The meter body should be disconnected, the mercury drained out, and if the meter is of the electrical type, the power turned off and the leads disconnected.

   A high pressure water line should be connected to the low pressure side of the meter and water should be allowed to flow through until it comes out clear. If an oily or greasy sediment is found in the meter body, a solvent should be used. When the meter is reassembled after cleaning, care must be taken to replace all gaskets.

   When the mercury is badly contaminated, it should be replaced. If facilities are available, the mercury can be distilled or cleaned by washing with acid. Ordinarily, however, it is sufficient to wash it thoroughly with water and filter it through a fine chamois cloth.

3. **Calibration should be checked periodically.** The meter should be clean and a suitable standard check column should be used. The type of column used will depend upon the facilities available and upon the differential range of the meters being checked. Shown in Fig. 11 is an arrangement for use with meters having 20 inches of water differential and which are to be checked for a "wet" calibration, i.e., with water in the meter body above the mercury.

   In making up the column, it is

well to use ½-inch I.D. glass tubing or larger to reduce reading errors. The water supply tank must be located above the highest point of the column. If distilled water is not available, care should be taken that all air is expelled from the water, and that no air pockets exist in the system. The meter body should also be carefully filled with water, and all entrained air expelled. Any air present in the water column or meter body will give incorrect results.

The column shown in Fig. 12 can be used as a permanent apparatus where compressed air is available and where a large number of meter bodies must be checked. To cover a full range of differentials from 20 inches of water to 36 inches of mercury, three such columns should be constructed as follows:

(1) Using water and having a scale about three feet long, this column is made from ½-inch I.D. glass tubing and has a reservoir pot about 8 inches in diameter. Pot and pipe fittings are of brass.

(2) Using some reasonably stable liquid such as tetrabromoethane with a specific gravity of about 3.00 compared to water, this column has a three-foot scale, is constructed of ¼-inch I.D. glass tubing, and has a reservoir pot about 4 inches in diameter. Pot and pipe fittings are of brass. This column will handle differential ranges from 30 inches to 100 inches of water.

(3) Using mercury, this column employs ¼-inch I.D. glass tubing, and a reservoir pot about 4 inches in diameter. Pot and fittings are of steel. This column will handle ranges above 36 inches of water.

On each of these units, the scales should be calibrated by using a water column in parallel with the test column. This will assure accuracy of test columns over normal ambient temperature variations. The specific gravity of the liquid used in unit (2) must be maintained at the same value or errors will result. When these columns are used, the meter body is "dry," i.e., no liquid is in contact with the mercury.

The system shown in Fig. 13 employing an inclined glass tube (A), is suitable for differentials below

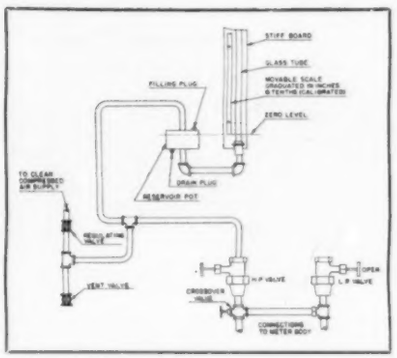


Fig. 12. Standard check column for running "dry" calibration checks. Such an arrangement can be constructed to handle meters with differentials of from 20 inches of water to 36 inches of mercury.

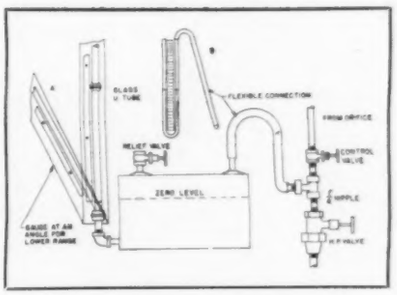


Fig. 13. Standard check column for running "dry" calibration checks on meters with differentials below 20 inches of water.

20 inches of water. Meters with these low differentials are usually used in measuring gas flows and are therefore calibrated "dry." Pressure to actuate the column can be obtained from the main flow line, as shown, or from a compressed air line. Glass tubing should be about ½-inch I.D. and the reservoir pot about 8 inches in diameter. The vertical tube or the "U" tube (B) can be used in place of the column shown when "dry" checks are to be made on meters having differentials above 20 inches of water.

Making the Calibration Check. To make a water column check, it is first necessary to place a 0 to 100 square root or evenly divided chart on the recorder. It is next advisable to check pen friction on chart since, if excessive, it will cause tapping error. Tapping error is present if, after the pen has come to rest, several sharp taps on the instrument case cause it to take up a new position on the chart. This friction can be checked by exerting a reasonable pressure on the chart and chart plate and seeing if the chart moves back sufficiently to cause the pen to leave the paper. The pen is then set to exact zero.

Water column pressure should be increased by unit steps of 10, 20, 30, etc., up to 100 on the chart and at each step a record of the reading should be made. This operation is repeated in reverse direction downscale. The average of the recorded readings, if within the normal accuracy guarantee of the meter, will give the true reading of the meter since the flow, when measured, is continually increasing or decreasing. If, however, the differences are beyond the allowable error, excess friction is present and should be corrected. This friction may be due to pen shaft friction, excess pen pressure, bent connecting links, or (in a mechanical meter) excess friction in the pressure-tight bearing.

To determine the correct differential, i.e., reading on the water

Inspection and Maintenance Schedule

Inspection Maintenance	Daily	Weekly	Monthly	Yearly
Ink Pens	x			
Check Zero		x		
Lubricate Pressure Tight Bearing (Mechanical meters)		x		
Blow Down Connecting Piping			x	
Check for Leaks			x	
Check Sealing Liquid (when used)			x	
Check Levels of Sealpots, Condensers and Meter Body			x	
Check Pen Pressure on Chart			x	
Complete Overhaul				x

column, for any cardinal point ("X") on the chart, the following formulas can be used:

(1) Evenly Graduated Charts

$$D = (M)\left(\frac{C}{F}\right)$$

(2) Square Root Flow Charts

$$D = (M)\left(\frac{C}{F}\right)^2$$

D = differential at chart reading "X"
M = maximum meter differential
C = chart reading "X"
F = full scale chart reading

Summary of Flow Meter Maintenance Checks. Although maintenance schedules must of necessity be drawn up based on the conditions existing in and the facilities available at individual mills, the accompanying inspection and maintenance schedule (on preceeding page) is usually sufficient to insure trouble-free flow meter operation.

Trouble Shooting. Even though inspection and maintenance programs are followed religiously, changes in processing methods and mill conditions can cause flow meter difficulties. The accompanying table of effects and probable causes can be of assistance in diagnosing erratic meter operation. Before checking any of the items listed, it is well to make sure that none of the flow conditions as described under "Changes In Flow Conditions Affect Meter Calibration" (page 102) have changed.

(The third article in this series will appear in an early issue.)

Effects and Causes of Erratic Meter Operation

Trouble	Likely Causes
Shifting Zero	Leaks in connecting piping, valves or meter body. Meter body not level. Entrained air in meter body (liquid or steam flow). Condensate in meter body (gas flow). Meter body range tube and/or float chamber walls coated with dirt. Excess pen pressure on chart. Excess friction in pen shaft, connecting links or pressure-tight bearing (mechanical meter body).
Sluggish Meter Operation	Orifice nipples, connecting piping, and/or meter body clogged with dirt.
Meter Reading High (Integration and zero check "OK")	Orifice Plate: Warped, or upstream edge wire drawn. Steam Flow: Low pressure condenser pot below level of high pressure pot; on vertical down flow lines, low pressure bent orifice nipple filled with condensate instead of steam; condenser pot volume too small. Liquid Flow: Entrained air in low pressure piping; sealing fluid contaminated; seal pots not level. Gas Flow: Condensate in high pressure piping side.
Meter Reading Low (Integration and zero check "OK")	Orifice Plate: Rounded upstream edge; accumulated solids on upstream edge; warped. Steam Flow: High pressure condenser pot below level of low pressure pot; on vertical upflow lines, high pressure bent nipple filled with condensate instead of steam; condenser pot volume too small. Liquid Flow: Entrained air in high pressure piping side; sealing fluid contaminated; seal pots not level. Gas Flow: Condensate in low pressure piping side; leakage past meter body equalizing valves.

What's Wrong with Textile Mill Air Conditioning

(*Continued from page* 96)

that a fellow with a screwdriver and a crescent wrench could go into a control that is not working and put in a whole new set of innards? Then he wouldn't have to fool around with the delicate parts at all.

Drip Pans for Drip Pans. Designers should certainly consider the possibility of something slipping into the room that might be below the room's dew point. An experience in a mill last year proved that we had to use drip pans for drip pans. It was one of the most beautiful problems in temperature balance I ever saw.

Intake air was drawn into the room through a duct entering from the roof of a weave room where it was rather hot and damp. A drip pan was located under this vertical duct. This drip pan collected the condensate from the vertical duct, but this condensate was cooled as it ran down the duct so that it reduced the temperature of the drip pan below the dew point of the room; and the bottom of the drip pan dripped. The boys swore to me that the pan was full of leaks. This proposition was deadly serious to us in terms of wet warps on a line of twenty looms. We solved the problem by putting a drip pan under the drip pan.

What We Want. Air conditioning, as installed in the mills today, is not all bad. I have tried to suggest ways in which it might be improved. These improvements are up to the designers of equipment, plant engineers, and the operating men. Most of all we want the cheapest possible installation that will give us what we must have. We want rugged, simple controls; and we want to know more about the effect of moisture and heat on the running of cotton. The cotton mills will be pleased with every bit of progress the manufacturers make toward these ends.

Philadelphia Textile Occupies New Quarters

MORE THAN 800 friends and alumni of the Philadelphia Textile Institute gathered on Thursday afternoon, October 6, for the formal opening ceremonies of the new school at School House Lane and Henry Avenue, Germantown.

Representing an initial outlay of approximately $1,300,000, the new school provides twice as much floor space as the old premises at Broad and Pine Streets. Student capacity is approximately 600; this figure will be doubled by day and evening classes.

For the present, the school plant is comprised of a main building (shown here), library, and administrative building; the latter is a beautiful mansion acquired with the site. Expansion plans provide for dormitories, an auditorium, gymnasium and other facilities. Estimated cost of the completed project is $3,500,000.

The main building is constructed of reinforced concrete, faced with colonial brick, cast stone and marble. The building is two stories in the front and three stories in the rear, the ground floor opening onto Henry Avenue.

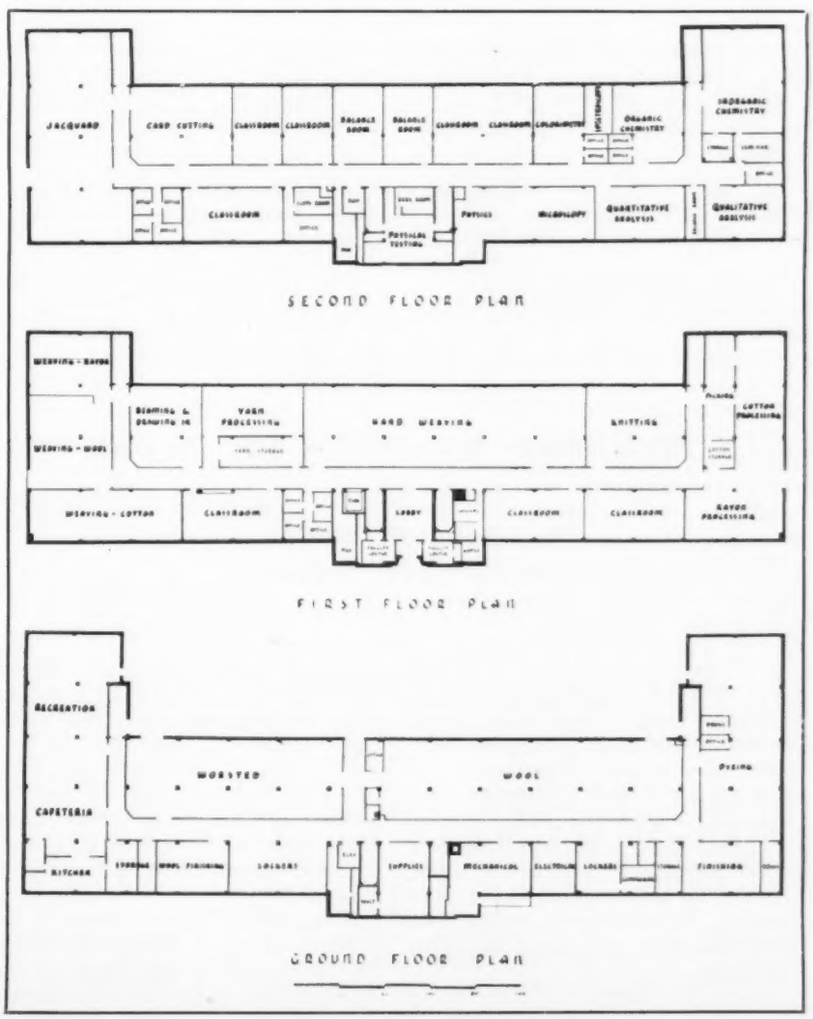
Fluorescent lighting is used throughout the building and it is completely fireproof. Asphalt and acoustical tile are used extensively in the lobby and corridors, while the main lobby is decorated with Vermont and Georgia marble, so that this room may be used for textile fabric displays.

The physical testing laboratory on the second floor is air-conditioned. A cafeteria and recreation room are included in the building, along with lounges for men and women.

An innovation is the use of green glass blackboards throughout the building. Yellow chalk is used on these boards assuring better visual accommodations.

Scholler Dye Laboratory. One of the outstanding features of the new school is its dye laboratory, built and equipped with $80,000 of a $120,000 gift to the Philadelphia Textile Institute Foundation by the Scholler Foundation (for details, see TEXTILE INDUSTRIES for September 1949, page 79).

The Hesslein Library. This 4,200 square foot building was built with the $52,000 contribution from the Edgar and Emily Hesslein Fund, Inc., New York. The new library building will accommodate five times as many students and more than twice as many books as the old room at Broad and Pine Streets.



AATCC Annual Meeting

Atlantic City

THE AMERICAN Association of Textile Chemists and Colorists held its 28th national convention in Atlantic City, N. J., October 13-15, with the Philadelphia Section serving as host.

Charles A. Seibert of Du Pont was given the association's highest honor, the Olney Award for outstanding service in the field of textile chemistry. He has been associated with the textile chemistry industry for the past 50 years.

Date for the next national convention is September 28-30, 1950, at Wentworth-by-the-Sea in Portsmouth, N. H. It will be sponsored by the Rhode Island Section.

The intersectional contest was won by the Rhode Island Section with the presentation of a paper on research into the formation and application to textiles of the acid colloids of resins.

Abstracts of many of the technical papers delivered at the Atlantic City convention appear in the following pages.

Helindon Dyestuffs for Wool

By DR. H. LUTTRINGHAUS

General Dyestuff Corporation

WOOL can be satisfactorily dyed with Helindon dyestuffs, applied from a weakly alkaline bath at about 120 to 140° F for approximately 30 minutes. If exhaustion is not complete, 1 to 4% ammonium sulfate is added to lower the pH to about 8.5.

The dyebath is set with ammonia and hydrosulfite, ammonia being omitted for heavy shades as the small amount of caustic soda carried over from the stock vat assures sufficient alkalinity.

For pastel shades, 3% ammonia is employed to retard exhaustion. Hydro is increased correspondingly to the ammonia but lower amounts of hydro can be used in easy flowing machines, and increased amounts when air is carried in by turbulence. The amount of ammonia is not increased with longer liquor ratios; all chemicals are calculated on the weight of the wool.

Two per cent glue is added to the dyebath to retard exhaustion of the Helindons and it might prevent the precipitation of the vat if it should be on verge of falling out. Glue also acts as a buffer by forming a sodium salt with the caustic and thus lowering the pH of the bath.

After dyeing, the wool is hydroextracted, oxidized in air, and acidified with one per cent acetic acid (58%) while the bath is brought up to 170° F. Tops can be cooled, oxidized, and acidified in the machine without being removed.

Qualities. Conditions for dyeing Helindons are less severe than those occasioned in an alkaline scouring bath, and the product has superior fastness to perspiration, fulling, washing, and light. Chlorinated wools can be dyed as easily with Helindon dyestuffs as normal wool, resulting in yarns of better tensile strength and higher elongation than identical yarns dyed with chrome colors. Wool 10, 20, or 30% stronger than corresponding chrome dyed wool, and yarns capable of 50% greater elongation may be achieved.

Helindons are being placed on the market in powder form. A proper selection of vat colors can now be made which will avoid dangers of changing wool character incipient with exposure to high amounts of caustic soda (essential to anthraquinone dyeing).

Chemical Action. The caustic, which is normally taken up by the vat dye-

- **Helindon Dyestuffs for Wool**
- **Evaluation of Wetting Agents**
- **Recent Research Results**
- **Ageing Textile Prints**
- **Detergency Research**
- **Fabric Inflammability**
- **Loss of Wool-Substance in Sulfuric Acid Carbonizing**
- **Textile Education and Research**
- **Static in Textile Processing**
- **Nylon Staple in Hosiery**

stuff and partly neutralized by decomposition products of sodium hydrosulfite, reduces particle sizes of the dye and opens the submicroscopic pores of wool, permitting high molecular type dyes to penetrate. The cold dyeing types of vat colors diffuse rapidly through wool, indicating a low particle size and therefore little need for caustic. If an acid vat is prepared in the usual way, a dyeing may be obtained without the help of any alkali, at a pH of 3 as well as a pH of 6.

Mill trials have proved that some vat colors form a chemical compound with wool, these colors being types forming molecular or near molecular solutions of the leuco compound. Molecule size plays an important part as illustrated with the corresponding leucoesters, the Algosols derived from anthraquinones which dye wool tippy due to the large molecule entering damaged parts of wool first. Indigoid types, with small molecules, dye tippy wool level.

Evaluation of Wetting Agents

By LEONARD SHAPIRO

Research Director, Synthron, Inc.

MODIFICATIONS of the Draves Test were attempted, in which woven tapes were employed rather than standard skeins. Certain specific advantages were demonstrated by the woven tapes in wetting tests:

(1) A greater speed and ease of handling resulted from the elimination of reeling off 5 gram skeins.

(2) Greater accuracy with a smaller number of duplicate tests and less freak readings are possible. The smaller, more uniform size of air bubbles entrapped by a woven fabric are responsible for this superior performance.

(3) Less solution is removed by the tape than by a skein, and more tests may be conducted using the same liquor, without loss in volume or exhaustion of surface active agent.

(4) Use of woven material makes interpretation more simplified and allows direct correlation on the same fabric with surface-drop tests employing 1-inch squares or circles, and rewetting tests.

(5) Wetting and rewetting tests may be run on the same fabric utilizing the same technique.

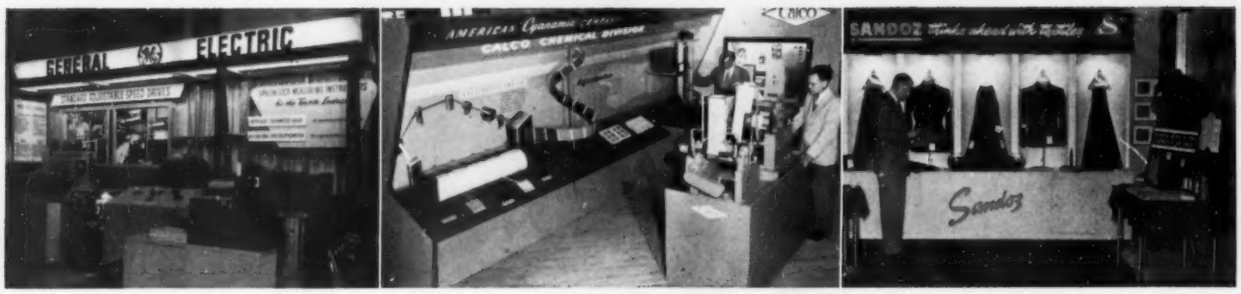
Making the Tests. The tests consist of dissolving the required amount of surface-active agent in 100 to 200 ml of water at 80°C, and diluting with water to one liter. Hardness, electrolyte concentration, or pH are adjusted as required. For test temperatures greater than room temperatures, the solution is heated above the temperature required.

The solution is transferred to the 500 ml graduate, and the temperature is finally adjusted within 1°C of the required value.

A 1.00 gram hook, 1 inch long and filed to a sharp point, is inserted through the tape, about ¼ inch from one end of the center line. The distance from anchor to hook is 20 mm. The hook is tied with nylon thread.

The tape is held by the free end so that the anchor and bottom of the hook are just submerged in the liquid of the graduate. The tape is dropped and the stopwatch is started at the sound of the anchor striking the bottom of the cylinder.

When the hook and tape start to



sink at a constant rate, the sinking time is reached and the watch is stopped.

Repeat tests are run until the required degree of precision is attained, 2 or 3 tests generally being conducted. Results are tabulated or plotted on log-log paper.

Specifications for the tape are as follows: Standard 1¼ inch binding tape, natural (E. L. Mansure Co.). Each batch of tape is checked with a standard sample of wetting agent before using. Length of tape is 9 inches and total weight is 1.85+/—0.10 gms.

Recent Results at Textile Research Institute and the Textile Foundation

By DR. J. H. DILLON
Director of Research, Textile Research Institute, Inc., and The Textile Foundation, Princeton, N. J.

RESEARCH on the fundamentals of dyeing originated with the simple objective of obtaining a better understanding of the basic physical chemistry of dyeing phenomena.

The mode of attack was to obtain basic chemical and physical data pertaining to dyeing equilibria and rate phenomena, such as swelling, sorption of dye and salt ions, dye and salt ion concentration in the bath, fiber tension, and temperature. Using these basic experimental quantities, theoretical physical chemists are capable of employing principles of thermodynamics and rate theory to explain the mechanism of dyeing.

Work is done on single fibers or films in order to avoid liquor entrapment and to permit direct microscopic measurement of swelling. Swelling studies are limited at present to fibers of reasonable round and uniform section such as human hair, nylon, and specially prepared regenerated cellulose and cellulose acetate fibers.

Large volumes of dye bath are employed in respect to fiber volume so that depletion of dye and salt ions in the bath will be negligible. The "long dye bath" will be of fixed concentration during a single experiment.

Techniques of Measuring Swelling. The dye bath is circulated through a small cell with parallel glass walls and the fiber diameter measured at 10 to 20 points along the fiber. The rapidity of diameter measurement may be greatly increased by taking several photomicrographs in quick succession. Proper selection of indices of refraction of fiber and bath must be made, and this procedure is not difficult.

In latest experimental arrangement, the fiber is mounted in an extremely light jig under a known spring tension which can be varied. The jig can be removed quickly and easily from the cell. A somewhat longer section of the fiber is immersed in the bath, then removed and weighed after bringing to a standard moisture content.

Weighing Absorbed Materials. The weighing process yields only the sum of non-volatile materials absorbed by the fiber. This problem was countered through usage of radioactive tracer elements to tag the dye molecule and salt ion. Active sodium Na^{22} with a half life of three years is a good possibility for tagging the salt. Preliminary calculations of beta-particle absorption indicate a maximum loss of 50 per cent within the coarsest fibers for which correction can be made. The total beta count indicates the sum of dye molecules and salt ions present in the fiber.

Utilizing the differences in velocities of the two groups of beta-particles by foil absorption technique, it is possible to measure individually the amount of salt and dye present in the fiber in a single experiment. The amount of three tagged substances absorbed by fibers can be measured where one of the tags is a gamma radiator.

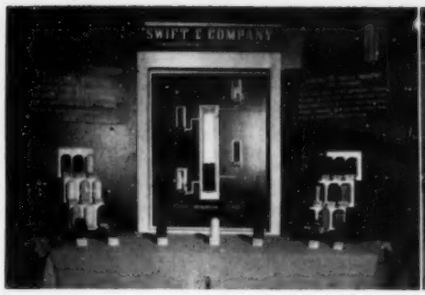
Radioactive Dyestuff. The Brookhaven National Laboratory is cooperating in the development of this radioactive application. The first radioactive dyestuff has already been prepared. It is the wool acid dye, Du Pont's Anthraquinone Blue SKY, tagged with S^{35}.

Cellulose Decay in Processing. Two years of research also yielded a technique for preventing decay of native cellulose in cupriethylene diamine solution and a method of calculating the desired quality index, the intrinsic viscosity.

From this point it was possible to assay processing damage to cotton. Cotton samples taken from various stages of mill processing revealed a 30 per cent reduction in the degree of polymerization of the cotton cellulose from bale to yarn, apparently resulting from mechanical processing.

A corresponding reduction of Pressley tensile strength is associated with mechanical processing. At present, there is an attempt being made to localize the damage within one or more operations of processing.

Progress in Wool Fiber Research. In an effort to obtain a simple parameter for indicating changes in wool fiber properties induced by chemical



and physical treatment, the Hookean modulus, i.e., the slope of the linear portion of the extension curve, was selected. This simple quantity may be considered to represent the total immediate reaction of the elastic elements of a stressed fiber.

Because of the extremely large geometrical variation between wool fibers of a given sample and along a given fiber, it is desirable to have a non-destructive test whereby changes in physical properties of an individual fiber can be measured as a function of chemical treatment. The 30% index technique used by Harris and Speakman has proved useful as a non-destructive method. The Hookean modulus can be effectively used in this connection, a soaking period of only five minutes being required.

It appears that the Hookean modulus of a yarn is more sensitive and less variant than conventional breaking stress and extension quantities. Initial applications seem to point toward a relationship between high modulus and good weaving. There is also a distinct correlation between Hookean modulus and breaking load for single wool fibers but not for yarns.

Problems in Ageing Textile Prints and their Control

By PAUL J. CHOQUETTE and OTTO F. HABEL

General Dyestuff Corp.

THE BEST average ageing conditions are being obtained on prints by plants which maintain a constant pressure of steam supply and a large volume flowing. The steam enters the hot plates and is then exhausted through the ager. Supply of steam to the ager is supplemented by direct steam connection. Temperatures of 216-218°F are obtained in normal practice on the average pattern.

This point which maintains a uniform production represents a loss in color value of approximately 15% as compared to the strength when the ager is first started. With higher equilibrium temperatures, the color loss is correspondingly greater.

The pad-steam method is gaining interest. In this procedure, the vat pigment is first printed with the help of a temporary binder, followed by drying. Goods are then padded through a caustic and sodium hydrosulphite solution at room temperature, followed by a rapid ageing of from 10 to 20 seconds. Rinsing, oxidation, and soaping follow in the conventional manner.

Excellent color values are thus obtained with most vat dyes. The conventional longer ageing time (5 minutes) may be utilized by padding the dried prints through the stable sulfozylate formaldehyde, potassium carbonate, and glycerine, followed by drying and ageing. The latter drying operation may be omitted if the ager temperature is high enough (230°F) or if the time is extended. The absence of active chemicals in the print paste makes possible the storing of prints and their later development, which conveniently serves the plant with limited ageing capacity.

Control in Storing. The importance of control in the storing of prints prior to ageing was demonstrated on a pilot plant ager. For a relative humidity of 30% vat prints may be held as long as 24 hours without loss of color value. Above 45%, two hours or more standing, color value is impaired beyond restoration by redrying and longer ageing.

Higher temperatures of steam within the ager reduce color value, but superheating is checked when the amount of water absorbed by the cloth in ageing is supplied to the steam atmosphere.

No more than 0.3% by volume of air is permissible within the ager. Color value is decreased due to action of oxygen content in lowering the reduction potential of the sulfoxylate which in turn affects the reduction of the vat dyestuff.

Steam Quality and Flow. Variations in steam quality from 0 to 5% have no effect on the color value. The steam flow rate should be sufficient to maintain a positive pressure within the ager, which is necessary to eliminate stagnant areas and prevent air influx. This point should remain constant. Automatic stack damper control maintains this regardless of varying atmospheric conditions.

Results of this pilot plant work confirm experiences of plant practice and are suggestive of instrument control value. Effects of exposure to atmospheres above 30% relative humidity emphasize the importance of a proper balance between printing and ageing capacities. Ageing, immediately after drying, with controls on the dryer to deliver cloth dry but not overheated, provides the ideal situation.

Cloth Protection. Boxes in which prints are plated after printing and drying should protect the cloth from exposure to atmosphere, and it is advisable that care be exercised to keep room where dried prints are routed prior to ageing, warm and dry.

The pad-steam method should seriously be considered for the smaller plant where ageing capacity demands storage of prints for more than 8 hours under conditions of variable

humidity. In this process, the vat pigment prints may be stored indefinitely.

No problem of superheat in ageing is present, inasmuch as the cloth is saturated with solution from the chemical padding. Temperatures of 230°F for the short time cycle may be advantageous. The major control factors for small agers are elimination of air and avoiding condensation. The use of a single mouthpiece where the cloth enters and leaves is helpful.

Cooling of the print ager is accomplished by the introduction of dispersed water, works rapidly, and should result in worthwhile steam savings. The focal control point for water spray are print and cloth temperatures, since this is the most sensitive indicator of variance in pattern coverage and resultant heat changes.

The use of an automatic stock damper control permitting the maintenance of a constant predetermined differential pressure should result in improved uniformity with steam economy. Air content must be kept to 0.3% as the maximum.

Detergency Research at the Institute of Textile Technology

By DR. WILLIAM P. UTERMOHLEN, JR.
Institute of Textile Technology

THE PROBLEM of treating cotton cloth to confer superior resistance to soiling or superior ability to cleaning by a washing process has been investigated. Resistance of cotton to soil is valuable when laundering time is not available or when no laundering facilities exist.

Successful treatments should not alter desirable properties of cotton so that its applicability is lost (e.g., by tendering and strength loss, and reduction of moisture adsorption). Treatments enhancing resistance to soiling but decreasing ease of soil removal are unsatisfactory.

A comparison of laboratory soiling practices and end-use soiling shows that the most frequent types of end-use soiling do not correspond to the type most used in laboratory work; a situation permissible for comparative testing of detergents but not for the problem under consideration.

Effect of Humidity. Experiments reveal that variations in relative humidity from 35% to 85% have no effect on the ease of soiling of liquid-dispersed soils or on the ease of soil removal. Dry cloth soils more heavily than damp cloth, which due to the water already present, prevents displacement by the soil-carrying liquid even when the latter is water, except for long exposure times. It washes cleaner than dry cloth because dirt is not readily absorbed by the fabric surface.

Finishes and Softeners. Starched cloth soils more heavily than unstarched cloth, and starch does not alter apparent soiling from aqueous dispersions. Small amounts of starch have little effect on soil removal although larger amounts generally aid it, except with synthetic detergents.

Cationic and ionic softeners produce a noticeable increased ease of removal of soil deposited from aqueous dispersions. Anionic softeners have a generally favorable effect on soil resistance.

Durable and non-durable hydrophobic finishes produce a nearly complete resistance to aqueous soil and substantial resistance to soiling from CCl_4 dispersions. Durable water repellents cause difficulty of soil removal by washing, while non-durable wax-type water repellents which wash out during laundering do not interfere with soil removal.

Various neutral resins behave toward CCl_4 soiling as do the durable hydrophobic finishes, but hold the soil tenaciously upon washing. Water dispersed soil is also held tightly. Resin containing carboxylate groupings aids soil removal.

Textile crease-resistant finishes of the urea-formaldehyde type do not produce any resistance to soiling and make the acquired soil more difficult than normal to remove.

Chemical Modification. Mercerization, partial acetylation, carboxymethylation, and aminoethylation are attractive finishes in that little or no undesirable change in appearance, hand, or other physical properties results.

The most promising treatments for liquid-dispersed soils appear to be anionic softeners, partial carboxymethylation, and treatment with a vinyl resin bearing carboxyl group.

The greatest resistance to dry soiling is produced by partial acetylation. A rough correlation exists between the resistance to liquid-dispersed and dry soils produced by the various treatments (partial acetylation an exception).

Cellulose cross-linking treatments and cellulose-derived finishes are yet to be tested. The application of dry soils should be extended to other soils and expanded in volume to make wash tests possible. The most promising field for future research lies in the study of treatments which will alter the electrical properties of the cloth.

Catalytic Oxidation and Degradation of Cellulose

By DR. W. GEORGE PARKS
Rhode Island State College

THE MECHANISM of controlled fabric inflammability was investigated. On the basis of the results obtained, it was concluded that one of the most significant functions of a satisfactory flame retarding and glowproofing compound is to decrease the amount of carbon dioxide caused by thermal decomposition of cellulose.

Yarn treated with effective agents produced chars which were pliable, had high tensile strength, and retained original yarn characteristics except for the black char coloring.

Catalysts containing the phosphate radical were most effective in producing high carbon monoxide/carbon dioxide ratios, with vanadium com-

pounds and halogens in descending order of effectiveness.

Permanent Retardants. Basic textile materials, such as dye intermediates, melamine resins, mordanting agents, and possibly waterproofing agents of an organic nature, may be compounded with phosphate to produce a permanent retardant.

The possibility of decreasing the formation of tarry products formed during oxidation of cellulose, and directing the oxidation to completion by means of a catalyst was also investigated.

Alkali metal salts caused the greatest decrease in the amount of tars. Sodium bromide was the most efficient of these catalysts, while lithium chloride and carbonate, sodium chloride and carbonate, and potassium carbonate also were satisfactory.

Phosphates and borates proved counteractive to afterglow. The phosphate radical can be responsible for establishing fire retardant mechanisms within cotton fabrics. A method of incorporating phosphates with some compound adhering it to the fiber permanently, making it durable to the leeching action of water and soap solutions was also investigated, but no conclusive findings have been established. Phosphates have been compounded in resins of the melamine formaldehyde type and applied with satisfactory results. Several commercial treatments similar to this technique are available.

Occurrence of Soluble Wool-Substances as a Result of the Sulfuric Acid Carbonizing Process

By JACKSON BAUER
Fred Whitaker Company

FACTORS influencing loss of wool-substance in commercial sulfuric acid carbonizing and neutralizing processes were studied to determine principal carbonizing variables responsible for diminished yield.

Acid strength, drying temperature, and drying time were contributory to wool loss, depending on the extent of each variable.

Estimating Carbonizing Damage. The damage resulting from a given carbonizing process may be estimated. A sample of carbonized but unneutralized wool is tested for acid content. A weighed sample is then neutralized and rinsed, dried, and reweighed. The difference between the loss expected by removal of the acid, extractibles, and ash, and the neutralized loss would give an indication of damage incurred by carbonization.

Wool loss mechanism is explicable in terms of acid hydrolysis of the wool protein. Part of the wool is rendered soluble as its peptide bonds are hydrolized by sulfuric acid. The amount of wool substance dissolved is a measure of wool hydrolysis occurring in carbonization.

Carbonized wool exhibiting high protein loss is more readily neutralized than wool showing small loss due to greater acid combining capacity of the amino nitrogens of the solubilized portion of protein. When such wool is rinsed in water the soluble wool substance-acid reaction product having the higher acid content is largely removed, leaving little acid for removal by chemical neutralization.

Recommended future investigation should include:

1. Examination of amino acid content of the substance removed in the neutralization operation subsequent to carbonizing.
2. Loss of wool-substance correlated with other means of damage detection.
3. Wool loss resulting from a given carbonization system vs. micron grade of wool ranging from coarse to fine.

Losses Resulting from Laboratory Neutralizing of Commercially Carbonized Wools as Compared with Losses Expected by Removal of Acid Content

Type Wool	Wgt. Loss by Ammonia neutralizing and water rinsing corrected for change in ash and extractibles	Expected Loss from acid removal alone	Loss of Wool substance by difference
	%	%	%
48's BA	9.97	7.70	2.27
36/40's BA	9.47	7.20	2.27
36/40's BA	7.40	6.84	0.56
36/40's BA	8.38	6.84	1.54
36/40's BA	8.68	6.72	1.96
60/64's Aust.	9.55	5.90	3.65
36/40's BA	9.90	6.60	3.30
44/70's Cape	10.27	6.80	3.47
		Average Loss	2.38

Textile Education and Research

By BERTRAND W. HAYWARD
Director, Philadelphia Textile Institute

COMMERCIAL and social progress would be accelerated should mankind perform as well in production as they are capable of. There is a lag in application of fundamental discoveries to daily practices. This is typical of the textile industry suffering from a lack of impact of research on production.

Need for Practical Application. Much of the great work of the industry's scientists still awaits application. The situation would be ameliorated by more research workers in industry who are competent

sufficiently to convert fundamental research into mill procedure.

Scientists are too deeply involved in highly specialized pursuits and have neither time nor interest to explain for lesser minds those elements of knowledge which have become perfectly obvious to the research worker. The problem confronting science, industry, and education is how discovery can be translated to the community in order to effect improvement in general welfare.

There should be a ready answer in the textile industry flanked by many excellent corporate laboratories, universities, technical societies and professional associations, and privately endowed joint-industry laboratories. As a base for transmitting the entire structure of fundamental research to production, there are the specialized textile institutes.

Evidence of the faith industry has in its potentialities are the millions of dollars they have contributed for building new schools. The textile institutes are trying to develop men who are alert and who know present processes and the efforts being made to improve them. They know, too, enough science to understand and apply whatever findings basic research uncovers which are immediately applicable.

An educational program is being searched for which would retain the desirable qualities of appreciation and understanding of the past and its confluence with the present and future and add to it the technical attributes essential for earning a living.

Retarding Factors. The nature of educational development, the political pressure that inhibits public institutions, and the tremendous changes in our way of living brought about through science and industry, all have worked to widen the gap between research workers and supervisory employees, between knowing what to do and getting it done.

The textile institutes offer excellent devices for closing this gap. But textile institutes are stagnated by insufficient funds and too much out of date equipment.

Solution. The promotion of textile education by corporations whose profits are derived from textiles, as well as existing technical associations, is one of the surest ways to increase the impact of research upon manufacturing processes. With that would come great strides in the American textile industry.

Static in Textile Processing

By D. H. LEHMICKE

Rayon Department, E. I. Du Pont de Nemours and Company, Inc.

WITH THE introduction of cellulose derivatives and the true synthetic fibers with low water absorption, many phases of textile processing experienced static difficulties.

Occurrence. Static accumulates noticeably when the charged body is of small mass and large surface so that relatively minute forces involved can cause motion. Individual filaments in a yarn accumulate charges of the same sign when passed over a guide, and the filaments will repel each other, causing yarn to balloon and create interferences. Charged yarn may also attract to oppositely charged surfaces, or neutral surfaces charged by induction. Light particles are capable of being attracted to charged yarn, further inconveniencing production.

Tests conclude that wool generates little static compared with the rest while Orlon is highly generative. This electrostatic phenomenon may be partially explained by conditions of humidity and moisture regain characteristics of the fibers. Acrylic fibers have extremely low moisture regain while wool has highest regain of all fibers, accounting for the deviation from predicted static propensity.

Textile processing difficulties are more pronounced in the case of staple yarns, although filaments are subject to static disturbances.

Examples of Static Disturbance. When nylon is contacted with another material at the convergence guide below spinnerets, it balloons due to static. Breakage of filaments and ends in the drawtwisting process is caused by elongating unoriented yarn several times over a pin which induces static. Heat applications during drawing are particularly generative. Attraction of yarn to metal ends of spool at traverse reversals in spooling results in bunched ends and undertucks.

During warping of nylon and other hydrophobic fibers, alignment of warp is disturbed by charging. The same is experienced in knitting or weaving from the warp. Poor delivery of filling from the shuttle during weaving arises from static charges, which also contributes to yarn ballooning, running out of guides, and clinging to machine parts in full-fashioned or circular knitting, responsible for inferior stitch formations and yarn damage.

Improperly finished staple will not form a satisfactory lap in opening and picking, while the web will disintegrate during carding, or the sliver jam in the coiler head as in drawing.

Remedies for Static. The only complete remedy is the presence of an anti-static ingredient in the finish. In borderline cases, static may be alleviated by increasing the humidity or employing static eliminating devices.

A relative humidity of 60 to 65% is desirable in opening, carding, and drawing of nylon staple. However, the relative humidity should be below 50% during spinning since end breakage occurs at higher humidities.

Static Eliminators. Radioactive static eliminators, or the high frequency discharge types, ionize air and permit rapid dissipation of the static charges. Points of application are usually at calender rolls of the picker, over card web, over the web, and in front of clearer covers in drawing, across the warp in creeling or beaming, and across the fabric in long runs.

Small buttons of radioactive foil may be placed close to the coiler tube on the underside of the coiler head. For multi-position rewinding operations, the high frequency system may be used with a conductor the length of the machine leading the discharge to pointed branches terminating near the individual yarn paths.

Anti-Static Finishes. Application of a suitable finish is the best method for preventing static difficulties, although no one finish is effective in

all processes to which the fiber will be subjected. Yarns so treated are often found susceptible to static after periods of storage. No compound fast to washing has been found to prevent static on the fabric.

Cationic surface-active substances comprise one group of finishes, owing their effectivity to the formation of a conducting film on the fiber. Among this group are quatenary ammonium salts, CTAB, cetyl trimethyl ammonium bromide, "Avitex" R, the Onyxsans, Stanteosine, and Appramine.

The second large group comprise compounds containing polyethylene glycol chains, and derivatives including fatty acid esters, reaction products of ethylene oxide and fatty alcohols or alkyl phenols.

A spin finish is best application for continuous filament nylon, immediately after extrusion and incorporated in coning oils in subsequent operations. Troublesome staple has been rendered static free by spraying with an anti-static finish. It is helpful for fabric softening finishes to be anti-static. Rugs may be sprayed to prevent sparking.

Nylon Staple in Hosiery

By D. H. HECKERT
Nylon Division, E. I. Du Pont de Nemours and Company, Inc.

PROPERTIES of nylon which make it adaptable to hosiery are strength, abrasion resistance, dimensional stability in washing and wear, and hand. These characteristics permit spinning and knitting of very fine count cotton yarns as well as medium and coarse counts.

Stability in wear and washing insures constant maintenance of size throughout the life of the spun nylon garment without special use of hand laundering, mild soaps, luke-warm water, and special drying frames. Warm fabrics with soft hand can be produced from spun nylon yarns.

Studies have been made which produced means of preventing pilling in spun nylon hose, and adding to the appearance of such hosiery.

All fabrics knit from woolly type staples have a tendency to pill (matting or balling up of surface fibers due to scuffing, washing, etc.). Pills representing weaker fibers break off readily during wear and disappear. Because of the greater strength of nylon, pills formed on spun nylon articles hold tightly to the knitted fabric. Pills form after ends of filaments are teased out of spun yarns in excess of ⅛ to 3/16". Good loft, coverage, and hand are derived from filament ends extending out less than ⅛".

Factors Affecting Pilling. Knitted fabrics representing fibers with round, smooth surfaces such as possessed by nylon, will pill faster than rough surfaced fibers, and will produce longer filaments. Yarns containing low twist pill more readily than higher twist yarns. Loose fitting fabrics pill faster than the same fabrics held under tension, emphasizing the need for better elasticity and better shape retention in spun nylon half-hose. Fabrics knit from low denier-per-filament staples would pill more readily than those representing high denier staples, all other factors such as twist and finishing being equal.

Means of preventing individual filament ends from being teased out of fabrics knit from spun nylon yarns have been established. Significantly higher twist multiples ranging from 4 to 4½ for cotton-spun yarns, which are later plied using a 3¼ twist multiple, give good resistance to pilling.

Spun nylon yarns made from longer staple lengths require the same degree of twist. A slightly less twist is permissible for singles yarn used without plying.

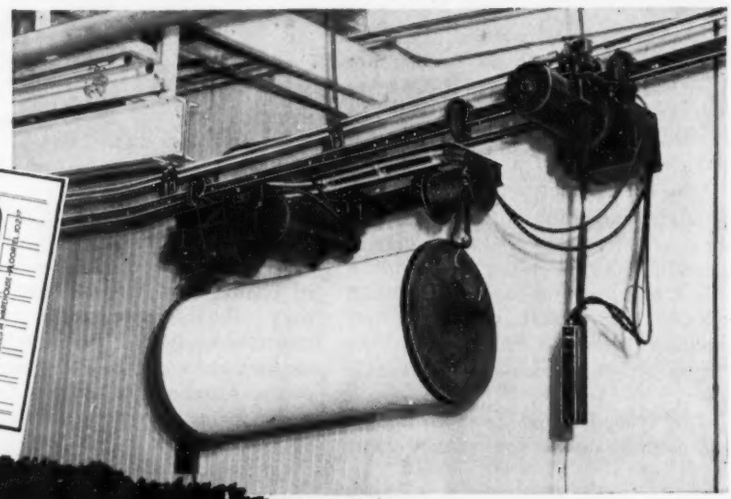
Little or no effect on loft or coverage and the hand of spun nylon yarns twisted in this range are observed when 1½" staple is used, although yarns spun from longer staples up to 5" exhibited some loss. Through utilization of shorter staples, the number of filament ends are increased, thereby contributing to superior loft and coverage of the spun yarn.

Crimp-set staple will also improve loft and coverage. The heat set crimp is not lost during carding, roving, and spinning operations, and further improves the insulating value and elasticity of knitted fabrics.

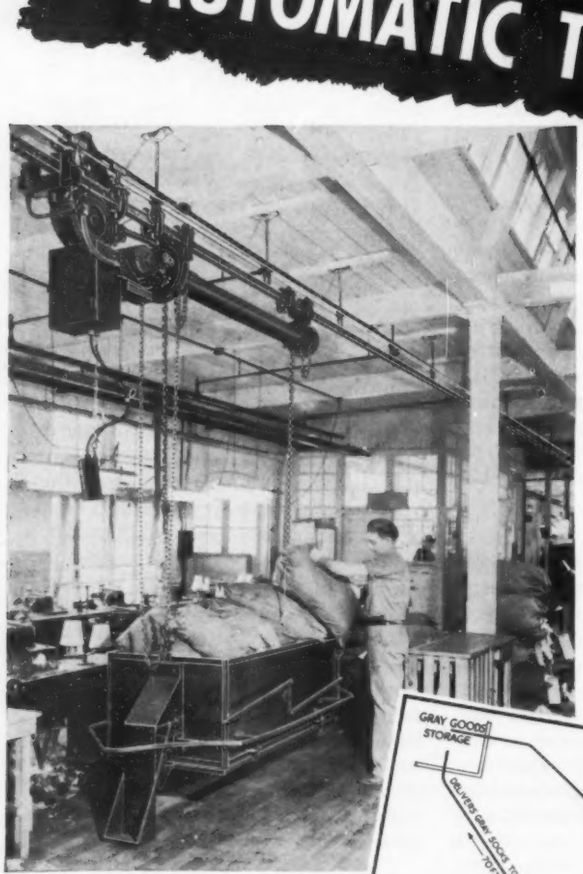
Crimp-set half-hose can be boarded without adversely affecting the loft and hand characteristic of this type hose when steam pressures from 35 to 40 psi are employed, in conjunction with a skeleton half-hose form.

This form has a minimum amount of metal surface in contact with the half-hose and permits rapid circulation of steam throughout the knitted fabric. The amount of steam and time required to bring half-hose up to desired temperature is greatly reduced.

(Abstracts of other papers will appear in January issue.)

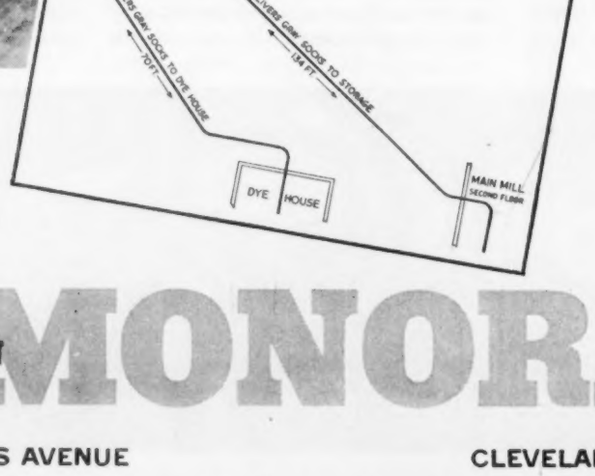


The Trend in Textile Handling is toward AUTOMATIC TRANSPORTATION



High labor costs — heavier unit loads — increasing maintenance expense have brought about a change from manual to automatic transportation of hard-to-handle textile loads. And American MonoRail equipment has been getting the call.

Illustrated at top is a system where beams of cloth travel from automatic pick-up to any of seven tables in the warehouse. Carrier unit can be set for twenty trips at control panel to operate continuously without further attention. Left, is a system for automatic dispatch where gray goods are transferred between buildings. Carrier dumps and returns to loading station by means of electric control.



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Labor Monopolies Test Their Strength

By RINGOLD ARDEN

IN HIS letter of transmittal, the author of this article wrote: "Until these labor rackets are broken up into small enough units to provide competition, as in any other kind of business, we are not going to have any industrial peace. I may not live long enough to see some decent labor laws passed in this country, but if I don't, I will probably live long enough to see the loss of many of my most cherished liberties."—Eds.

AS THIS is written, the country is enjoying a couple of strikes* which could practically cripple most of our major industries.

The President seems determined not to invoke the Taft-Hartley Act—to let the strikes wear themselves out. Maybe this is the best way to handle the matter after all, and but for the fact that both the miners' union and the steel workers' union operate absolute monopolies in their respective fields, it would undoubtedly be best to let the workers and their employers fight this matter out among themselves.

If there were any reason to hope that if these strikes are allowed to wear themselves out, anything would be definitely settled, the public would certainly benefit by a definite showdown between the employers and the unions. However, with a Government committed to the policy of buying political support by granting favors to labor organizations, there is little reason to hope that a showdown fight between the people that own the businesses and the people that work for them would settle anything, except perhaps the question of how many millions or hundreds of millions of dollars can be lost by an ill-advised strike.

Nominally, these two strikes are over questions of pension benefits, which in one case are claimed by the steel workers, and in the other case have already been granted to the coal miners, but these miners want the grant increased. These are only the superficial reasons for the strike.

THE REAL reason for both of these strikes, and the real reason for most of the big strikes of the past several years, has been the existence of a labor monopoly in several departments of American industry. Most of the strikes have been tests of the strength of some monopoly. What the monopoly happens to be asking for in any particular year is rather inconsequential. The outstanding, and all-important fact is that these monopolies feel that they have a sufficient stranglehold on an industry to be reasonably certain that they can force it to grant whatever they happen to be asking at any particular time.

The coal miners' union was probably the first most nearly complete union monopoly in this country. It had acquired sufficient power to defy the Government and ignore both Congress and the President several years ago during the war, when, by any reasonable rule of law, a strike in a war-vital industry was sabotage, if not treason, and those guilty of such sabotage should have been liable to the most severe penalties of the law, instead of eligible for a high reward for their disloyalty to their country.

Anyone who doubts that the various big strikes since the war have been tests of monopolistic strength of unions needs only to consider the history of the coal miners' racket. The coal miners' union originally demanded a pension and welfare fund to be financed wholly by a tax on coal. The tax started off at five cents a ton. At the expiration of that contract, the demand was made for raising this coal tax to 10 cents a ton, and then, in a later contract, to 20 cents a ton. It is our understanding that one of the chief demands of the miners' union in this present controversy is that this tax be raised to 35 cents a ton. That is, the tax which started off so innocently would be seven times the original amount if the miners get what they insist on having. There is certainly nothing to prevent the miners' racket from demanding a coal tax of 50 cents a ton next time, and so on ad infinitum. It should have been fairly obvious when this coal tax was first proposed that it was just as logical to ask a tax of 50 cents a ton as five cents a ton. Any demand seems to them to be logical if they have the power to enforce it.

The steel workers, obviously envious of the success of the mine unionists in shaking down the public, are now demanding a tax on steel to finance a welfare fund. The leaders of the steel workers' monopoly are contending that the steel companies have made exorbitant profits and can well afford to pay their demand for pensions out of these profits. This is, of course,

*Steel and coal industries. (Closing dates on a monthly publication preclude publication of last-minute news on current events.)

a very specious and nonsensical argument. A pension plan once installed goes on forever, but years of lush profits in an industry are few and far between, so it is perfectly clear that if the steel workers enforce their demand for free pensions, these pensions can only be provided by a tax on steel, just as the miners' pensions are provided by a tax on coal.

If the steel workers can force the steel companies to establish a fund which the steel companies estimate would result in a tax of $3.00 a ton on steel, unless these steel workers are less rapacious in their demands than the coal miners, they will probably turn up at the next expiration of their contract with an increased demand, which would result in a tax of perhaps $6.00 a ton on steel, and when that contract must be renewed they could quite logically ask for a $9.00 or $15.00 or $20.00 a ton tax. There is no limit to the rapacity of a monopoly.

THE QUESTION of the appropriateness of company-financed pension plans has little or nothing to do with the present steel strike. There are hundreds of companies in the United States which have instituted such plans of their own free will. Probably the first large company to establish a company-financed pension and benefit system was the American Telephone & Telegraph Company, which is the country's largest employer outside of the Government. Perhaps the A. T. & T. is the largest employer of *working* people in the United States, although the Government has about four times as many people on its payrolls.

This A. T. & T. pension plan was put into effect about 1915, and the telephone company evidently thought it was a good scheme and the employees seemed to be well pleased with it, and to value it highly. A great many other companies have voluntarily adopted pension schemes of this sort where it appeared to the managements of the corporations that one of these pension schemes would be a good thing for that particular company under its particular circumstances of operation.

Other companies have felt equally strongly that these free pension plans did not fit into their overall schemes of operation. Such a pension plan might work out well for A. T. & T.; a big railroad company, or any large concern which could normally expect a small labor turn-over under any circumstances, and a still smaller one if an employee realized that he was giving up accumulated benefits by quitting his employer. In any business with a high labor turn-over, a free pension plan could get pretty complicated. If an employee lost all of his accrued benefits if he quit his employer, that would cause a great deal of dissatisfaction in an industry where people were constantly shifting jobs, and we could be quite certain that the unions would soon be claiming that when a man quit one employer, his accumulated benefits should be turned over to his next employer's fund, or turned over to the employee.

If a new employer had no pension scheme, any accumulated benefits of an employee could not be transferred as a man went from one job to another, and if the employee could get the accumulated money by merely quitting his job, the whole thing would become a ghastly farce. We could hardly imagine pension schemes of this sort working throughout the textile industry, where labor turn-over is relatively high.

The Federal Government's adventure in "social security" would seem to offer the best vehicle for pensioning superannuated workers if the people of the country think that such pensions are desirable. Of course the Social Security System is more or less of a joke too, since all of the money collected from payroll taxes is immediately spent by the Government and there is never any money accumulated to meet the obligations of the Social Security Fund. This, however, to an inflation-minded government is a minor detail, since money can always be printed to meet what our President calls "fixed charges," and maybe we won't even have to print the money, but can print some bonds, instead, to replace money reposing in banks. Issuing a lot of these bonds to get money out of banks instead of just printing the money, sounds like a somewhat more conservative practice, but the ultimate effect on the economy will be just the same.

If a number of great industries adopt these pension plans, they must find some suitable investments for the large amounts of money that would be accumulated under these pension schemes. The Federal Government, while fully tolerant of its own sloppy financial methods, would hardly tolerate an equally happy-go-lucky attitude toward money on the part of corporations which had an obligation to their employees. The United States Steel Corporation, for example, would hardly be trusted by our Government to go out and borrow money in a time of depression to meet its pension and welfare obligations. The steel corporation of course is totally lacking in that convenient faculty of Government for just printing money as needed.

There are a great number of excellent arguments against industry in general being forced to establish pension plans, regardless of how well these may have worked out in certain specialized industries. It is also gravely open to question whether workmen in very highly paid industries should have free welfare systems established for them. Most of these free pension plans that were inaugurated years ago were put in by employers *in lieu of wage increases.* Where top wages are being paid, an employer could reasonably be assumed to have already given the employee enough to look after his own welfare.

All of these considerations, however, are of little consequence if one wishes to get at the real root of the current labor trouble. The real cause of it is the presence of a monopoly capable of demanding and getting something by force, and of keeping on demanding and keeping on getting something more by force.

Until a fair and reasonable competition is established between labor unions, there can be no such thing as industrial peace. Some strong-arm outfit will always be wanting something at somebody else's expense, and be able to get it.

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You can actually *feel* the sides of a belt *change shape* as the belt bends.

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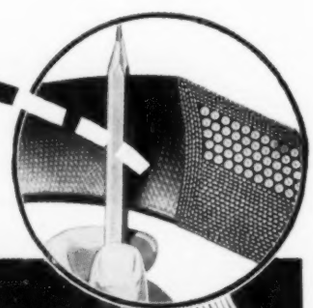
The Concave Side

(U.S. Patent No. 1813698)



SAVES Your Transmission DOLLARS

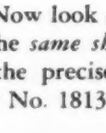
Take *any* V-belt in your hands and bend it as it bends in going around a pulley. You will see that the top of the belt, being under *tension*, grows *narrower*. The body, under compression, *widens*. The sides *bulge out*.

This shape change—in a *straight-sided* V-belt—is shown in Figures 1 and 1-A, below.

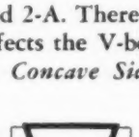
Straight-Sided V-Belt

How Straight-Sided V-Belt Bulges in Sheave-Groove.

Now look at Figures 2 and 2-A. There you see how the *same shape change* affects the V-belt built with the precisely engineered *Concave Side* (U.S. Patent No. 1813698).



Gates Vulco Rope with Concave Side.



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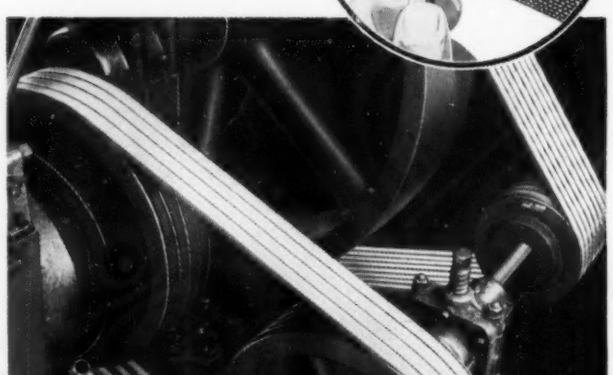

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Every Weave Room Should Have

EXCLUSIVE

Loom Lubrication Program

By WALTER MORRIS

LUBRICATION as a part of the maintenance program is often neglected unless there is a well planned system of lubrication in the mill. This is especially true in the weave room because of the manifold points of wear embodied in the looms.

The lack of knowledge and sometimes the indifference of many loom fixers, oilers, and others responsible for maintaining the lubrication schedule is surprising. They are punctual in having the family car lubricated at regular intervals, but in many instances they let a loom run until some part wears out, breaks, or burns up before they will put a drop of oil on it.

Only one or two drops of oil are needed in most bearings, yet oftentimes the end of an oil can spout is sawed off and a tablespoonful of oil is squirted at each oil hole. A small amount of this may finally seep to the part requiring it. Most of this overdose will drop to the floor, remain on the loom frame to catch dirt and lint, or reach some part made of cork, rubber, or some other material that may be damaged by oil.

Individual differences among looms, and the different adjustments and methods used in various mills, have made the lubrication program a local problem. There are many important factors to be taken into consideration. Among these are temperature, humidity, speed, and the type of goods being woven.

When the warp is changed, the loom should be cleaned and thoroughly lubricated. This is not sufficient except in special instances. Some warps will run for several weeks, and there are several parts of the loom (such as the pick balls and cams) that should be oiled or greased every day or two. Practically all other working parts require lubrication once or twice weekly. A good lubrication schedule can be worked out by using the manufacturers' charts.

By observation and examination of wearing surfaces at specified times, an oiler can be assigned an appropriate number of looms upon which to work each day of the week. The oiler should be given the correct variety of oil cans, grease guns, paddles, and brushes, in addition to thorough instructions on how to use them.

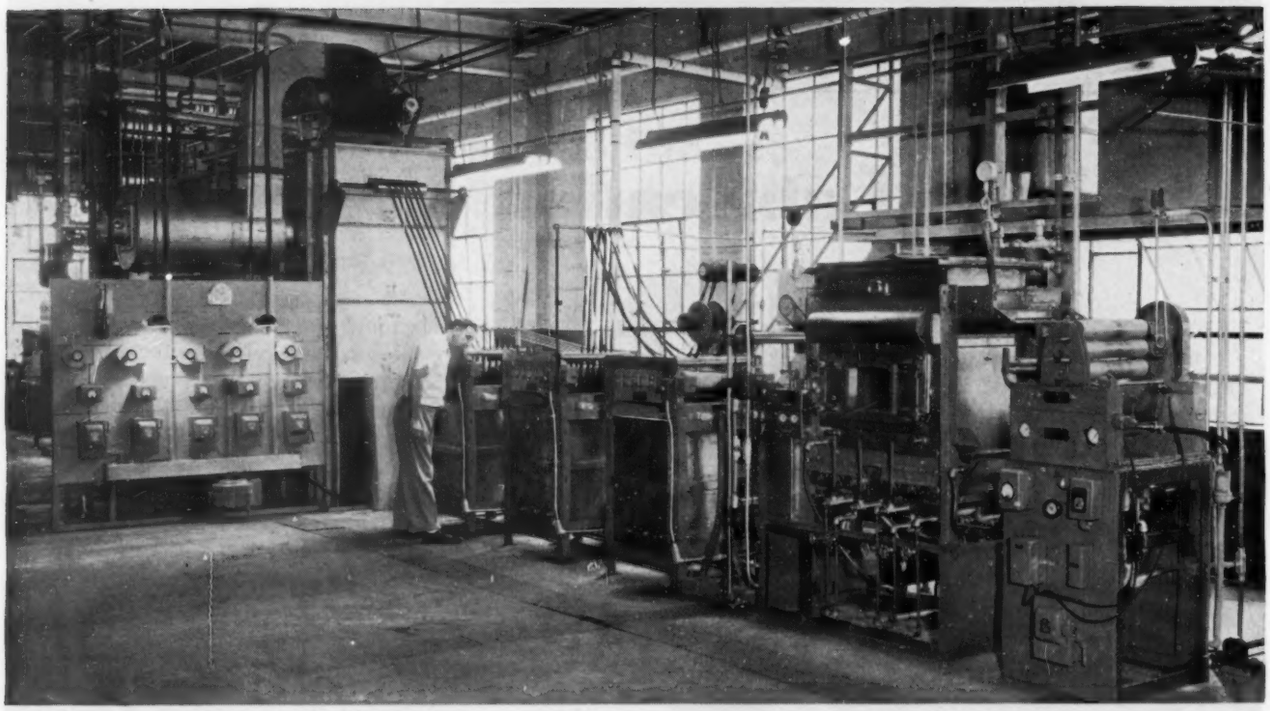
The oiler should be a man who takes pride in his work and does not require close supervision. Carelessness and neglect on this job can cause serious trouble which may be discovered too late to prevent expensive repairs. The number of looms assigned to each oiler should not exceed the number that he can take care of adequately.

In addition to the parts equipped with oil holes or grease fittings, there are numerous other parts that require lubrication. The most important of these are the outside surfaces of the pick balls and treadle rolls, the cams and gears, and the parallel feet. The lay guides, feelers, and treadle racks are vital and should not suffer the neglect they often do.

Shuttles and shuttle boxes should be lubricated frequently with tallow or a prepared shuttle dressing. This is a job for the loom fixer. If the sections are divided into equal parts and these subdivisions are assigned to the fixers, this part of the lubrication program should present no difficulties.

No rules can be made that will be satisfactory under all conditions, but with careful research and experimentation, each mill organization can work out a program suited to its own needs.

The oiler should be provided with the proper type of oiling equipment in addition to thorough instructions on how to use it.



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Interest in HOMOGENIZED STARCH Demonstrated at Georgia Meeting

Staff Report

TEXTILE Operating Executives of Georgia, meeting in the auditorium of the new Harrison Hightower textile building at the Georgia Institute of Technology on Saturday, October 8, demonstrated an active interest in homogenizing starch, and the performance of hot air slashers.

Nineteen questions on slashing and weaving were submitted to the mills throughout Georgia for study prior to the meeting. Boyce Mangum, Graniteville Co., Augusta, Ga., led the panel on slashing, and George Baker, Pacolet Mfg. Co., New Holland, Ga., led the discussion on weaving.

Hot Air Slashers. Two mills reported experience with hot air slashers. One of these obtained an increase of 50% in speed and production. Operating speed was 60 yards per minute as compared with 40 yards per minute on their other slashers. Based on 2000 loom hours of operation, this mill reported 7% less warp stops. (See TEXTILE INDUSTRIES, page 101, September issue, for details of Uxbridge Gentle Air Slasher in mill operation.)

Another mill could give no information on comparative costs of operating a 4-section air-drying type Saco-Lowell slasher. Production in this mill was 40 yards per minute on the slasher, running 1/15s to 2/40s worsted counts, ends ranging from 2000 to 6000 for 64-inch woven width.

Other Subjects Discussed

Slashing

- Hot Air Slashers
- Control of Slasher Waste
- Slasher Squeeze Rolls
- Viscometers for Size
- Agitator Speeds
- Automatic Steam Controls
- Steam Pressure and Cost
- Leasing Warps
- Positively Driven Creels

Weaving

- Life and Cost of Loom Parts
- Shuttle Bristles and Fur
- Control of Cloth Quality
- Grading Cloth
- Conditioning Filling
- Loop Selvage Wires
- Loom Drives
- Filling Breaks on Long Quills
- Take-Up Roll Coverings

Controlling Slasher Waste. Several mills indicated that they depend upon close supervision of operations to control waste at the slasher. Most mills exercise care to keep the yardage on section beams as close to uniform as possible. Some mills give explicit instructions to warper operators in setting warper clocks.

Slasher Squeeze Rolls. In answer to a question regarding the most satisfactory type of squeeze roll and covering used on slashers, 16 mills expressed preference for wool blanket-covered front rolls. One mill uses a yarn wound front roll covered with layers of jute, cotton yarn, worsted yarn, and another layer of cotton yarn. Another mill uses wool yarn on the front roll.

Ten mills use wool blanket-covered rolls on the back, six use synthetic back rolls, and two use cotton slasher cloth and clearer cloth respectively.

The interval for buffing synthetic covered rolls varies from 6 months to 28 months. The weight of front rolls varies from 350 to 850 pounds. Weight of back rolls

PERCENTAGE WASTE AT SLASHER

Mill	Per Cent Soft Waste	Per Cent Hard Waste	Total
B	.18	.66	.84
C	—	—	.75
E	.22	.12	.34
F	.17	.35	.52
G	.64	.15	.79
H	.20	.20	.40
L	.85	.60	1.45
T	.40	.20	.60
Average	.38	.33	.71

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ranges from 300 to 750 pounds. Yarn counts were from 2.5s to 40s. Number of ends in a set varies from 968 to 5800.

Viscometers for Size. Three mills reported experience with viscometers in checking the viscosity of size. In one instance the instrument is used to control the viscosity of the size, thereby controlling the percentage size that is put on the yarn. According to this mill, the check insures an even coat of size applied to the yarn and serves to assure the correct size formula being applied to the different yarns used in different warps. It is also a guide for regulating the temperature to secure the proper penetration. In this mill the results obtained are that the weave room receives better sized warps, for they have the size applied under controlled conditions.

Another answer to the question stated that the instrument is used to sample the size in the box at intervals of three minutes. A mechanism records the viscosity on a chart. From this chart the difference in size viscosity at the beginning and end of a size batch can be noted; also the difference from one mix to another can be noted. One of the major advantages claimed in this mill is that the instrument helps the size man keep his mixes more uniform.

A third answer set forth the following advantages in using a viscometer: (1) a constant check on the viscosity of the size made; (2) any break down of the size stored overnight can be readily seen; and (3) different size formulas can be checked.

During the meeting one man stated that when the viscosity is checked, if the fluidity is off too much, the entire batch is dumped to avoid difficulties in production.

"Textile Industries" staff photos

Boyce Mangum, Graniteville Co., Augusta, Ga., led the panel on slashing. Seated, left to right, J. C. Edwards, Exposition Cotton Mills, Atlanta, Ga.; John S. Turner, Bibb Mfg. Co., Columbus, Ga.; George Baker, Pacolet Mfg. Co., New Holland, Ga.; and H. T. Gilbert, Athens Mfg. Co., Athens, Ga.

Another statement at the meeting revealed that the instrument was found to be accurate. A check was made at various stages during the size cooking operation and it was discovered that viscosity leveled off before the cooking cycle was completed. This revelation indicated that it may be possible to cut the time required for cooking the size. The usual cooking time in this mill was one hour.

Homogenizing Starch. There were no written answers relating experience with equipment for homogenizing size and starch.

According to oral reports at the meeting, some of the advantages claimed for homogenizers are: (1) less time required for size preparation (30 minutes compared to 1 hour); (2) saves on starch and compound; (3) size mix does not gelatinize when left over week-end.

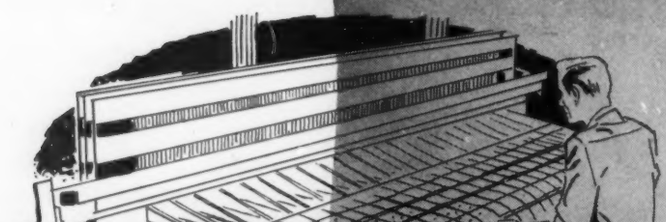
Some details of homogenizing equipment are as follows: A high pressure extrusion valve is used to break down the globules of starch. The procedure is to raise temperature of starch to 180 degrees on thin boiling, and 190 to 200 on pearl starch. When the starch reaches correct temperature it is pumped through the homogenizer at a pressure of 1500 pounds per square inch. Cooking time is reduced from 1½ hours to the time required to bring the ingredients up to temperature. Viscosity is controlled by regulating the pressure on the extrusion valve. The starch must reach its maximum swelling point before the homogenizer will break it down.

More comments revealed that trouble was experienced in keeping the cooking temperature uniform. Further explanation indicated that working time is not constant throughout the operation. Output of the homogenizer can be controlled by regulating the pressure. The capacity of homogenizer ranges from 200 to 400 gallons per hour, depending upon re-

AGITATOR SPEEDS ON SIZE COOKING KETTLES

Mill	Agitator Speed (rpm)
A	28–30
I	53
M	40
O	40
T	15–20

TWENTY mills, representing 1,082,466 spindles and 21,672 looms, submitted written answers to questions prepared for discussion before the meeting was held. This report is based on both the open forum discussion and written answers to the questions.



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quirements in the mill. Uniform batches can be maintained if cooking time is uniform, and the size stays on the yarn to which it is applied. This is partially attributed to good dispersion of the size particles.

Someone asked if it is possible to save 15% on starch. The answer was no, if starch is added by weight. A representative of one mill explained that a half hour was saved in cooking the size mix with his installation which had been in operation for about 30 days. This mill cooks the starch for 30 minutes. The time required to generate the necessary pressure and boil was 45 minutes in this instance. Viscosity proved to be uniform, and steam consumption was in the ratio of 20:45, using an open coil in the homogenizer.

This speaker said that relative costs for making size were the same when comparing kettles with the homogenizer, but they were somewhat disappointed in weave room results at first. Loom stops jumped 21%, but results are improving in the weave room now. The yarn looks better under a microscope. Two samples were set aside: one containing cooked starch; the other containing homogenized starch. After three days the cooked starch was mildewed. The homogenized starch was found to be in satisfactory condition. All ingredients for the size solution are mixed together, but if a high melting point softener is used it should be melted before adding to the solution in the homogenizer.*

Automatic Steam Controls. Twelve mills answered a question regarding automatic steam controls on slasher cylinders. One of these had automatic controls on each cylinder of a two-cylinder slasher and reported obtaining better control in preventing yarn sticking to cylinders. Better results in the weave room were also claimed. Another mill has an automatic control on cylinders one and two; also a separate control for the third cylinder. This same mill claimed less yarn sticking to the cylinders and better running warps in the weave room.

*For description of a starch homogenizer recently developed especially for use by textile mills, see page 182, TEXTILE INDUSTRIES for September 1949.

SLASHER SPEEDS AND CYLINDER TEMPERATURES

Mill	Cylinder Temperature or Lb of Steam	Yarn Numbers	Ends in Set	Slasher Speed ypm
A	3–15 lb all	14s–32s	2251–4788	———
B	10 lb all	10s	2574	45
F	3 lb all	40s	486–648	70
		30s	720–1694	60–70
	4 lb all	30s	1694–3146	40–55
G	10 lb all	10s	2334	45
	6 lb all	22s	2678	90
I	8 lb all	21s	3000	70
	8 lb all	25s	3000	70
	2 lb all	30s	3000	70
J	7 lb, 240°	.....	.....	.....
K	14 lb, 190°	16s	5070	27
L	210°–218°	13s–24s	1700–4500	30–40
M	10 lb all	14s–31s	2000–5800	30–45
O	12 lb all	2.5s	1380	12
		4.5s	1950	18
T	9 lb all	——	.....	.....

Most of the mills reporting had automatic steam controls connected to operate on all cylinders simultaneously. Apparently few plants had trouble with yarn sticking to cylinders. In some instances steam was reduced on light sets to obtain good weaving warps.

Steam Pressure and Cost. Twelve mills considered it advisable to reduce steam when operating slasher at slow speed for several minutes; however, some of these mills did not follow the practice because of the time required to reduce cylinder heat and then bring it back up to production heat. The standard practice in starting sets on slashers is to maintain operating temperature the same from start to finish; the temperature for all cylinders is the same.

Only five mills reported cost per pound of yarn dried at the slasher. Cost on this item ranged from a low of .1 cent to a high of .226 cent per pound.

Leasing Warps. A question regarding the best method of leasing or splitting at the slasher brought forth written answers from 18 mills. A representative portion of the information given on this subject is as follows:

Mill A. At the front of the slasher we split our yarn in the conventional manner by inserting a split rod between the yarn for every separation made by the lease string applied at each section beam at the back. In the past we have used what we call pin leases that would give us another 50 per cent separation or two split rods for

OFFICERS ELECTED

General Chairman: John S. Turner, agent, Bibb Manufacturing Company, Columbus, Georgia—for one year, succeeding J. C. Edwards, Jr., superintendent, Exposition Cotton Mills Company, Atlanta, Georgia.

Vice-General Chairman: H. M. Jackson, assistant superintendent, Fulton Bag and Cotton Mills, Atlanta, Georgia—for one year, succeeding John S. Turner.

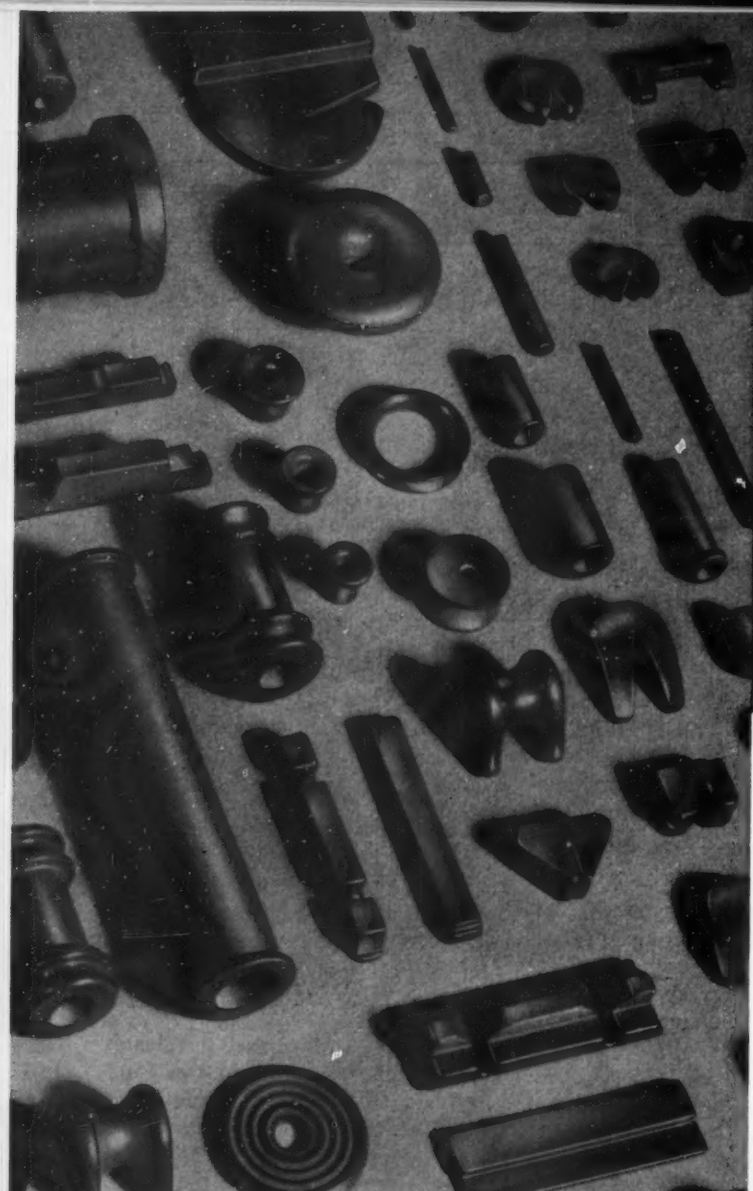
Secretary-Treasurer: Robert W. Philip, vice-president and director of research, Callaway Mills Company, LaGrange, Georgia—re-elected for 28th consecutive annual term.

Three members of the executive committee were elected, each for a term of 2½ years as follows:

James A. Byars, superintendent, Riegel Textile Corporation, Trion, Georgia.

T. M. Hampton, superintendent, Hillside Plant, Callaway Mills Company, LaGrange, Georgia.

T. R. Scott, general superintendent, Martha Mills, Thomaston, Georgia.



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193 GUIDES

A leading producer of synthetic yarns carried out extensive practical research on static electricity. This independent research confirmed that conductive AlSiMag 193 Thread Guides, when properly grounded, effectively remove static electricity. The extremely long wear of these guides and their consequent low cost has also been confirmed time after time.

This independent research report was made available to textile mills. As a result, the number of conductive AlSiMag 193 Guides in use has increased geometrically. Enthusiastic reports of success have come to us from throwsters and from every phase of textile manufacture.

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AlSiMag 193 is a conductor of electricity. It is the ONLY ceramic thread guide which is a conductor. Many troublesome static problems are overcome by bleeding off static through AlSiMag 193 Guides. When installed, a conducting compound must be used (some adhesives are non-conductors) and the guides must be effectively grounded.

If you would like test samples from our stock, they will be furnished without charge. Test samples made to your specifications will be furnished at reasonable cost. We suggest that you test AlSiMag 193 Guides in your plant. Your test records will tell the story.

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every section beam. This was accomplished by taking a pin lease at the warper to obtain the separation at the slasher. We have found that this makes unnecessary waste, and we have discontinued the practice.

Mill C. We wet split our warps at the back of the slasher as the yarn comes off the cylinder. We find that the rods split the sized warp ends into the same number of divisions and into the same order of ends as were maintained when the warp ends were drawn from the section beams. The lease rods tend to break up the size formation that exists between individual warp ends. In this way warp ends that may have stuck together, if not broken apart, will break apart at the heddles as they are drawn into a loom during the weaving process. We employ the pin lease when slashing a heavy sley.

Mill O. On our comparatively coarse yarn we find we get better results using wet split rod between size box and back cylinder. In front of the cylinder we use a rod to lease each beam.

Mill Q. On our worsted yarns, we are leasing at the front of the slasher.

Five mills wet split their warps in front of the size box to obtain better results.

Creel Drives. Among six mills stating their preference for creel drives, three preferred positively driven creels, one used friction type creel, and the others did not state their preference. The differential in yarn speed between the section beams and the loom beams was 1% in three mills, 2% in one mill, and the others did not answer the question.

(This concludes the report of the slashing discussion. Report of the weaving forum will appear in the next issue.)

North Carolina Cotton Manufacturers Meet

Staff Report

MEETING at the Carolina Hotel in Pinehurst, N. C., on October 13 and 14, members of the North Carolina Cotton Manufacturers' Association heard their president's annual report and three other prominent speakers.

At the business meeting on the morning of October 14, Karl Bishopric, of Spray Cotton Mills, retiring president of the Association, presented his report. Mr. Bishopric reviewed business conditions as observed over the past year. He called attention to the fact that for some time past there has been a definite trend toward the use of synthetic tire cords to the exclusion of cotton. He pointed out that while the production of tire cord as a whole had dropped 17% during the past year, production of rayon and nylon cord had increased 13%, causing a decline of 39% in cotton cord production.

Mr. Bishopric attributed this growth of synthetics in the tire cord field to research done by the synthetic and rubber companies. He recommended that the textile industry join in group research to find new machinery, new fabrics, and new uses for cotton.

Ward Delaney, president of the Institute of Textile Technology, Charlottesville, Va., presented a talk following the president's report. Mr. Delaney told what it takes to make up a successful research organization. He stressed that their work must be continuous, it can not be turned on and off and still produce results.

Mr. Delaney further explained the objectives of the Institute as a research center, a graduate school, and as a library for distribution of technical textile data.

Senator William B. Umstead of Durham presented an address in which he outlined his pride in the past and his hope for the future of America.

J. Frank Huskins, the new chairman of the North Carolina Industrial Commission, explained to the group the results so far achieved by the State's safety program.

OFFICERS OF NORTH CAROLINA COTTON MANUFACTURERS' ASSOCIATION

President: Frank C. Williams, Roanoke Mills Co., Roanoke Rapids, N. C.

First Vice-President: Julian Robertson, North Carolina Finishing Co., Salisbury, N. C.

Second Vice-President: Carl R. Harris, Erwin Cotton Mills Co., Durham, N. C.

Secretary-Treasurer: Hunter Marshall, Charlotte, N. C.

Directors: For three year terms: Harold Mercer, Firestone Textiles, Inc., Gastonia, N. C.; C. V. Garth, Hickory Spinners, Inc., Hickory, N. C.; H. K. Hallett, The Kendall Co., Paw Creek, N. C.; D. A. Long, Amazon Cotton Mills, Thomasville, N. C.; W. H. Suttenfield, American Yarn & Processing Co., Mount Holly, N. C.; and J. A. Cooper, Harriet and Henderson Cotton Mills, Henderson, N. C. For unexpired term: C. C. Dawson, Burlington Mills Corp. (Cramerton Division), Cramerton, N. C. This term expires in 1950.

Mr. Williams

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A much-needed improvement in bobbins that eases common spinning "headaches"

Bobbins that freeze on the spindle—that require excess twisting and pulling to release—are a familiar "headache" in spinning. Forcing leads to many troubles. Doffing is slowed up and production suffers. Packages are soiled and distorted, often slough off in later operations. Bushings are loosened and spindle blades bent.

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Alabama Technical Discussion

Staff Report

THIS report is a highly condensed version of the discussion meeting held by Alabama Textile Operating Executives on November 5. The complete report as prepared by a representative of "Textile Industries" will appear in the January issue.

New Picker Fringe Roll. (A roll wound with wire placed before the last beater section, usually employed in connection with Kirschner beaters.) Stock preparation appears better and uniform lap is made. No apparent benefit in terms of waste extracted.

Special Mill-Made Picker Beater. Mill-manufactured picker beater made with coarse wire, placing four teeth per inch, is operated at 724 rpm. With its use no lumps of stock are knocked through grid bars—motes appear cleaner—less fly in drawing and roving. No difference in breaking strength.

One Shot Picker Lubrication. Considerable savings in repair parts and time for routine maintenance and overhauling. Oil consumption reduced 50% and lubrication labor 75%. Ninety bearings served on picker. Do not install on worn bearings.

To Run Blends. Going from cotton to rayon blends: Slow picker lifter apron, put blank under licker-in, reduce strips, reduce speed of flats.

Ball Bearing Comb Boxes. Satisfactory for most part, but depends on type used. Advantages claimed: Use less oil, save doffer comb and blade, reduce vibration and noise.

Ball Bearing Licker-In Bearings. Cards so equipped for several years and their use has eliminated most of bearing maintenance.

Cleaning Paper Bobbins. One mill uses a conventional bobbin stripping machine to clean paper bobbins. Less than 1000 damaged in one year by this method. Jaws of stripper regulated so they do not grasp the metal ferrule.

Advantages of Rewound Filling. Increase spinning production, less slough-offs in weave room, better quality yarn, savings on battery filler's job. Disadvantages: Extra handling, additional machinery needed.

Cleaning Spinning Frames. Practice about equally divided between stopping frames and not stopping them for cleaning. As a rule, those who do not stop frames clean at more frequent intervals.

Underframe Cleaner. Satisfactory report on job this new piece of equipment is doing. Details given in TEXTILE INDUSTRIES, June 1949, page 87.

Anti-Friction Spindles. Generally accepted by those reporting, especially for large package spinning. Operate with less power and less vibration. Ends down same on anti-friction spindle and gravity type.

Card Feed Roll Bearings. Cards equipped with case-hardened journals and oil-impregnated metal bushings, pressed in from either side, leaving oil reservoir in center; housing tapped for oiling. Served for 10 years without trouble.

Nep Count Varies. Mill man stated he has little confidence in nep counts because the count varies from hour to hour, and condition of card wire (among other factors) affects the count.

(See January issue of "Textile Industries" for complete report on this discussion meeting.)

R. L. Rearden, superintendent, West Point Mfg. Co., Langdale, Ala., and chairman of the Association, presided at the meeting. Shown here on the speakers platform are (left to right): C. A. MacAbee, superintendent, Huntsville Mfg. Co.; Dr. Waights Henry, Jr., president of LaGrange (Ga.) College, guest speaker; Mr. Rearden, and Albert Johnson of Lanett.

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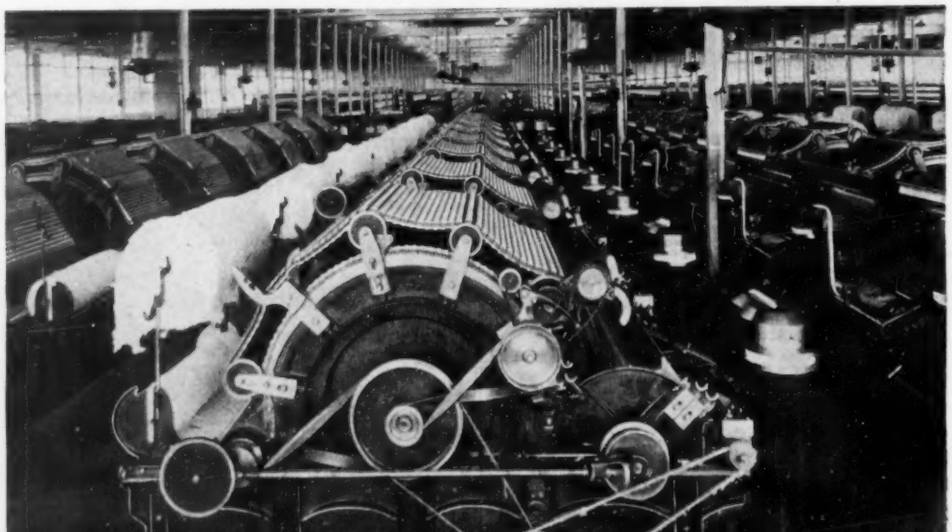

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NON-FLUID OIL stays in bearings until entirely consumed . . . instead of leaking and dripping away like ordinary liquid oil. And when used in comb boxes, NON-FLUID OIL does not cause gumming, heating and excessive wear as do so-called *semi-fluid oils* or other thin grease substitutes.

NON-FLUID OIL protects the close and accurate adjustment of Doffer and Top Flats assuring stronger, cleaner, more even sliver. You'll get better lubrication at less cost per month because NON-FLUID OIL lasts 3 to 5 times longer than ordinary lubricants.

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Combed Yarns Spinners Meet in Charlotte

Staff Report

THE SOUTHERN Combed Yarn Spinners Association, which represents 1,520,644 dues-paying spindles, or approximately 90% of the spindles manufacturing combed sales yarn in the U. S., met in Charlotte on Oct. 5, and heard a number of distinguished speakers discuss various factors affecting the combed yarn field.

In his president's report opening the twenty-fourth annual meeting, Fred L. Smyre, Jr., president and treasurer of A. M. Smyre Mfg. Co., pointed out that "unsold yarn stock in the hands of member mills amounts to slightly more than one week's production of the reporting spindles." This is a healthy situation so far as the manufacturers are concerned, and Mr. Smyre predicted that there will be insufficient supplies available for all market demands during the balance of the year and the first quarter of 1950.

He further recommended that every mill continue to give attention to plant modernization and research programs directed toward the manufacture of better quality yarn at lower cost.

Four prominent speakers were heard during the remainder of the afternoon session. Robert T. Stevens, chairman of board, J. P. Stevens & Co., Inc.; Read P. Dunn, Jr., director of foreign trade, National Cotton Council of America; Roy A. Cheney, president, Underwear Institute; and Dr. C. T. Murchison, economic advisor, American Cotton Manufacturers Institute, Inc.

Demand Prospects. In his address on demand prospects for woven combed cotton products in the near future, Robert Stevens predicted that we would continue to produce broad woven cotton goods at the rate of about ten billion square yards per year and fine combed cotton goods at about a billion yards per year, for a considerable time to come. He believed, however, that there were a number of factors which could adversely affect the fine yarn market. Well-made carded yarns are becoming more and more competitive with combed yarns. Some of these yarns look and handle like combed goods and have good consumer acceptance.

Mr. Stevens called attention to a drastic shortage of extra-long staple domestic cotton. Before the last planting season only a handful of seed was left of the Pima and SXP types from which could come this country's extra-long staple. Furthermore, this year's cotton crop in the Mississippi Delta is very poor. There will be much stained cotton and the grade of the crop will be down.

Another important factor affecting the combed yarn market is the International Trade Organization which plans to provide competitive nations with industrial equipment and information. This, along with the extension of the Reciprocal Trade Agreement, can mean future foreign competition which will be hard on our own combed yarn manufacturers.

Foreign Trade. Read Dunn presented the association with an excellent and intelligent summary of the foreign trade situation. Lack of cotton has reduced cotton consumption outside of the U. S. to 15% below what it was before the war in spite of an increase of 10% in population. This lack of cotton for foreign mills is the result of very low level of production of cotton by the farmers outside the U. S. and the shortage of dollars to buy U. S. cotton.

There is little likelihood that this production will materially increase in the next few years. On the other hand, synthetic production in foreign countries is increasing, and it is being produced with local materials even more cheaply than in this country. This means that the competition which raw cotton faces in foreign markets in the years ahead is not so much the competition from cotton of other countries but from rayon.

The United States will probably be competitive with most of the textile industries throughout the world, and we will have an excellent opportunity from the standpoint of price and quality to sell

The four principal speakers at the annual meeting of the Southern Combed Yarn Spinners Association: left to right, Roy A. Cheney, president of the Underwear Institute; Read P. Dunn, Jr., National Cotton Council; Robert T. Stevens, chairman of the board, J. P. Stevens & Co., Inc.; and Dr. C. T. Murchison, economic advisor, American Manufacturers Institute, Inc.

"Textile Industries" staff photo

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EXPORT DIVISION: Francis H. Love, 57 William St., New York City

our goods; but the question will be the availability of dollars.

Underwear Market. Roy Cheney discussed the buying methods of wholesalers in the underwear line and stated that a great deal had been learned about buying methods over the past year. He thought that buyers now better understand that the customer is best served by maintaining reasonable inventories, thereby helping to stabilize the whole industry. Mr. Cheney also called attention to the importance of cooperating with the Quartermaster Association in making plans for immediately increased production, should the output be needed by the armed services.

Commercial Picture. Dr. C. T. Murchison, in his first public address since the formation of the American Cotton Manufacturers Institute and the consequent dissolution of the Cotton-Textile Institute, of which he was president, expressed a feeling of real pleasure with the amalgamation and further expressed faith in its future of service to textile manufacturers.

On the subject of business conditions, Dr. Murchison agreed that the prospects are bright, but he felt that there were two factors, recently developed, which can bring trouble:

The first is the labor situation in which continuation of major strikes could paralyze the nation's commerce. The second factor is the devaluation of the world's currencies, in which Dr. Murchison could see no benefit. Certainly, he said, this devaluation will be harmful to the U. S. textile business, and he did not feel that it would benefit the nations who had devalued. He hoped and believed that the British pound would gradually be reestablished at a higher level relative to the dollar.

In accordance with the report of the nominating committee, Coit M. Robinson, president and treasurer, United Spinners Corp., Lowell, N. C., was elected president of the association. George W. Boys, president and treasurer, Green River Mills, Inc., Tuxedo, N. C., was elected first vice-president, and Kay Dixon, treasurer, Trenton Cotton Mills, Gastonia, N. C., was elected second vice-president.

Officers of the Northern North Carolina-Virginia Division, STA, and the principal speaker at the recent meeting in Lexington, N. C. From left to right: **Walter Vincent,** assistant manager, Schoolfield Division Dan River Mills, Inc., who was reelected chairman; **Glenn Ward,** general superintendent, Highland Cotton Mills, Inc., reelected vice-chairman; **Joseph D. Boyd,** personnel director, Melrose Hosiery Mills, Inc., principal speaker; and **Howard Barton,** superintendent, Rayon Mill, Fieldcrest Mills, reelected secretary.

Management Urged to Take Personal Interest in Employees

Northern North Carolina-Virginia STA Meeting

Staff Report

AT A MORNING meeting held on Saturday, Oct. 1, in Lexington, N. C., the Northern North Carolina-Virginia Division of the Southern Textile Association voted to keep in office the executives who had served them during the past year. The re-elected officers are: Walter Vincent, Dan River Mills, Inc., chairman; Glenn Ward, Highland Cotton Mills, Inc., vice-chairman; and Howard Barton, Fieldcrest Mills, secretary.

The principal speaker at the meeting was Joseph Boyd, personnel director, Melrose Hosiery Mills, Inc., High Point, N. C., who told the mill men in attendance that the labor problem was not a problem of labor unions or of particular labor leaders, but rather a question of management's making personal contact with the men in the mill and seeing to it that the men felt a part of the organization.

Mr. Boyd emphasized the importance of inducting new employees rather than simply employing them. He felt that renewed contact, particularly during the first few weeks with a new employee, will pay off in good industrial relations. Melrose, according to Mr. Boyd, has secured fine results by using eye tests to learn of any vision faults of employees. They have been able to upgrade many men and women who had been held back only because they had poor vision and did not know it. Once their vision was corrected, they did greatly improved work.

Wages are not the most important factor in keeping employees happy. Mr. Boyd listed other factors which, it has been found, employees feel are more important to their happiness on the job than wages. First on the list was job security, the knowledge that work will be steady. Good working conditions and a chance for advancement both came ahead of wages in the minds of the employees studied.

Carding. In the discussion group

Among those present from Erlanger Mills, Inc. Front row, left to right: R. D. Fritts, T. R. Kcontz, J. L. Temple, Vernie Sowers, Otis Frank, and Odell Leonard. Back row: Delmar Hayes, Wallace Davenport, V. D. Snyder, Ed Covington, and James McLain.

Staff photos

A group from Jewel Cotton Mills, Inc. Left to right: S. B. Laws, L. C. Callectt, R. F. York, G. V. Edwards, James H. Laws, and J. T. Folds.

on carding, a question was asked as to the percentage of reworkable waste produced in the mill. Answers to this indicated that most mills produce about 6% to 8% reworkable waste. The group was about evenly divided in opinion as to where this waste should be put back into process. Some put it through all cleaning processes while others put it directly into the picker hopper. A large percentage of this waste comes from the ends torn off the lap to avoid carrying this uneven portion through the cards.

Cleaning the ceiling and overhead fixtures of the card room was also discussed. Though most mills still blow-down with air from hoses, one mill represented at the meeting uses an overhead rail system and has found it most satisfactory. It is kept running full time during every shift, but during each lunch period the angle of the fan is shifted so that it blows against the walls until the shift starts again.

The remainder of the discussion in the carding group centered around the running of irrigated cotton. Everyone felt that this cotton had caused a lot of trouble in the past but that it was getting better every year. Those who had used this year's crop stated that it ran as well as rain grown cotton.

It was emphasized that this type of cotton is very fine and has to be handled carefully so as not to overbeat it. This brought up the question of the type of blades being used in pickers. The feeling was expressed that the Kirschner beater was easier on all stock than the blade beater and that it almost always did a better cleaning job. One mill representative stated that they had found much better evenness in the lap by using two Kirschner beaters rather than one Kirschner and one blade beater. They have been using this arrangement for more than a year.

Weaving. One question asked in the section on weaving concerned the lasting qualities of laminated picker sticks on E and XL looms. One mill stated that they were getting an average of 12 months' service from each stick. Another mill stated that they were not successful in using them on Draper looms. They use hickory sticks, and they last about two months.

The question of shuttle dressing was also brought up. One mill uses Japanese wax and tallow—20% wax, 80% tallow. They apply this mixture once a week. Another mill recommended shellac and banana oil.

Personnel. In view of the fact that the principal address of the meeting had been on a subject of great interest to personnel men, the discussion section on this subject was very well attended. The first topic discussed was how relations with foremen might be improved.

It was suggested that considerable success had been achieved by having foremen visit around from department to department, spending a full day each week with foremen of other sections. Each man continued these visits one day each week until he had visited and talked with all the other foremen in the plant. Finding out what the other man did seemed to show each man the importance of his own job and the way it fitted into the mill as a whole.

One mill of a group had gone further than this and had arranged for their foremen to visit foremen on similar jobs in other mills in the group.

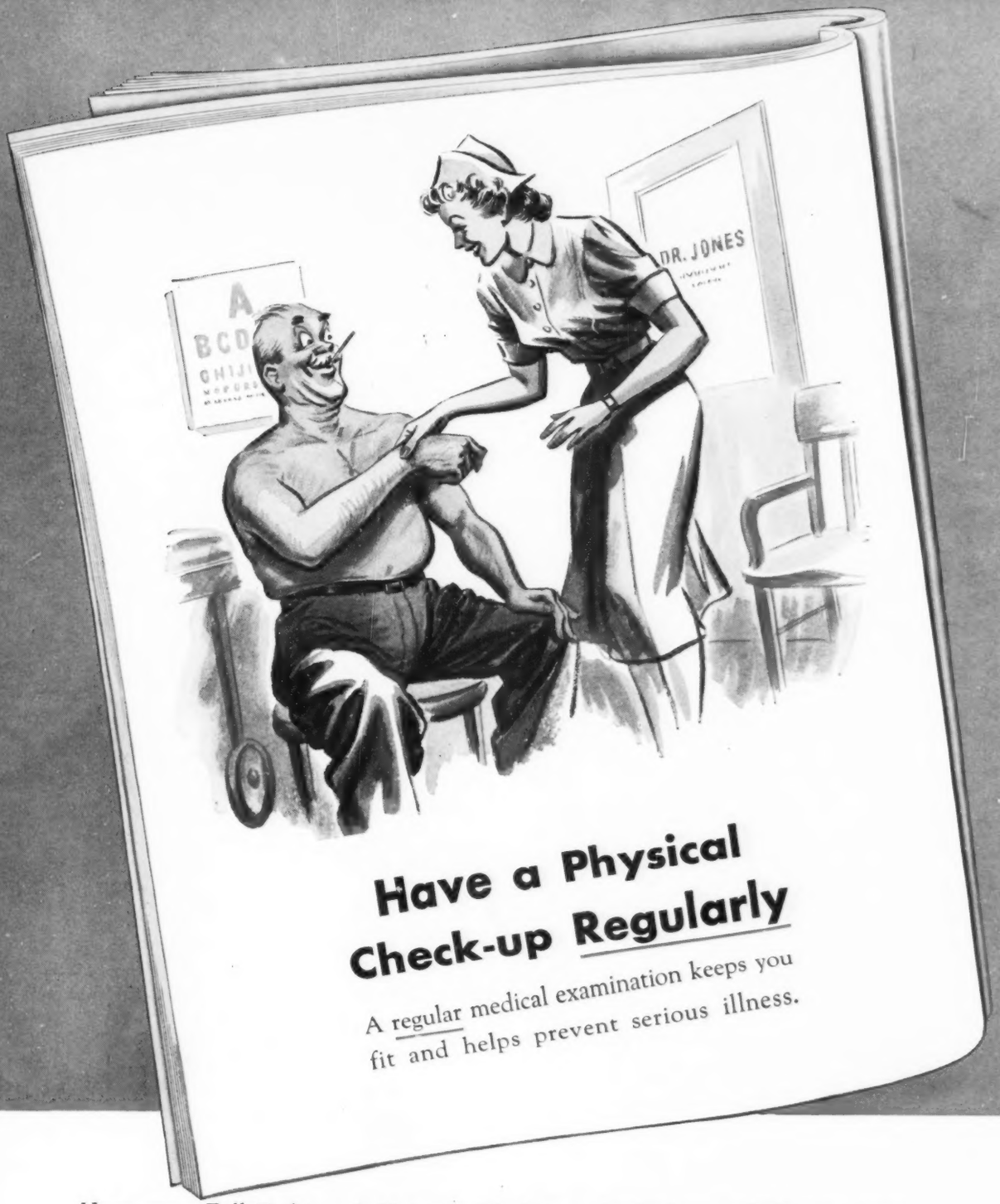
Contributions to Community Chests were also discussed. It was suggested that solicitations be made by an employee in each department. Better results were had than when a supervisor tried to handle the collections. After the canvass, a chart is put on the bulletin board to show how much money was raised in each department and whether the quota was reached.

It was interesting to note that while all mills discouraged drives for just any and every drive from "flowers for the sick" to "windows for churches," several mills used the profits from canteens to pay small amounts where the cause was felt to be good. If somebody gets hurt, for instance, and the people know he cannot pay his grocery bill, and they think so-and-so ought to have twenty dollars, the money is just taken out of canteen profits.

Other mills give canteen profits to five Y. M. C. A.'s.

Rayon Shipments First Nine Months

In the first nine months of 1949, according to the *Rayon Organon*, 552,000,000 pounds of filament yarn were shipped to domestic consumers (378,900,000 pounds of viscose and 173,100,000 pounds of acetate). Staple plus tow shipments in the January-September period amounted to 122,400,000 pounds of which viscose totaled 82,000,000 pounds and acetate 40,400,000 pounds.



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Have your Full-Fashioned Knitting Machines checked—regularly—to keep them at highest efficiency... Follow a regular program for reneedling and your needle bars are always in shape for better knitting... Follow a regular program for reconditioning and your plant is always at peak performance. We will be glad to discuss this matter of regularity as it applies to your mill operation.

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Textile

SPRING-BEARD NEEDLES

For Full Fashioned and Warp Knitting

Chemical Reactivity of Wool in Relation to Anti-Shrink Processes

By DR. P. ALEXANDER*

Research Department Wolsey Limited
Leicester, England

TWO MOST important requirements for a non-shrink process applicable to hosiery are (1) that the feel or hand of the wool should not be altered since any deterioration is more easily detected in knitted than in woven materials, and (2) that the reaction should be such as to lead to very even treatment, since hosiery is customarily processed in machines not promoting levelness.

These two objectives are pursued through recent research which has demonstrated that oxidation of the disulphide alone is not sufficient to produce unshrinkability except after severe attack and that the disulphide groups in wool can be divided into two fractions, each varying greatly in their reactivity towards oxidizing agents.

Chemicals. In accordance with foregoing facts, chemical reagents which produce unshrinkability without removing wool scales (which would alter hand) have been developed. Among these are permanganate mixed with alkaline hypochlorite, chloramides, and fluorine, which modify the scale edge only, leaving the major scale structure completely unaltered. The differential friction effect of wool fiber is greatly reduced, although microscopically visable changes are so slight that it seems improbable that removal of the scale tip provides the complete answer. A disorganization of the molecular arrangement at the surface must also be contributory to the anti-shrink characteristics of treated wool.

In these aforementioned anti-shrink processes, the hand remains unaltered, weight loss is negligible, and there is no reduction in mechanical properties such as abrasion resistance.

Rate of Reaction. Factors influencing the rate of reaction were studied. In the case of wool oxidation, reaction rate is very fast. The slowest step is the transport of reagent to the site of reaction, involving two steps (1) diffusion through the liquid, (2) diffusion through the solid. By changing one or more of the following conditions, the controlling (i.e., the slowest) steps may be changed:

1. Agitation
2. Concentration of reagent in solution
3. Liquid ratio
4. Temperature
5. Electrical charge of the fiber

Conditions where fiber diffusion is operative will lead to the most even processing under bulk conditions. In chlorination, the reagent diffuses through the liquid film and then

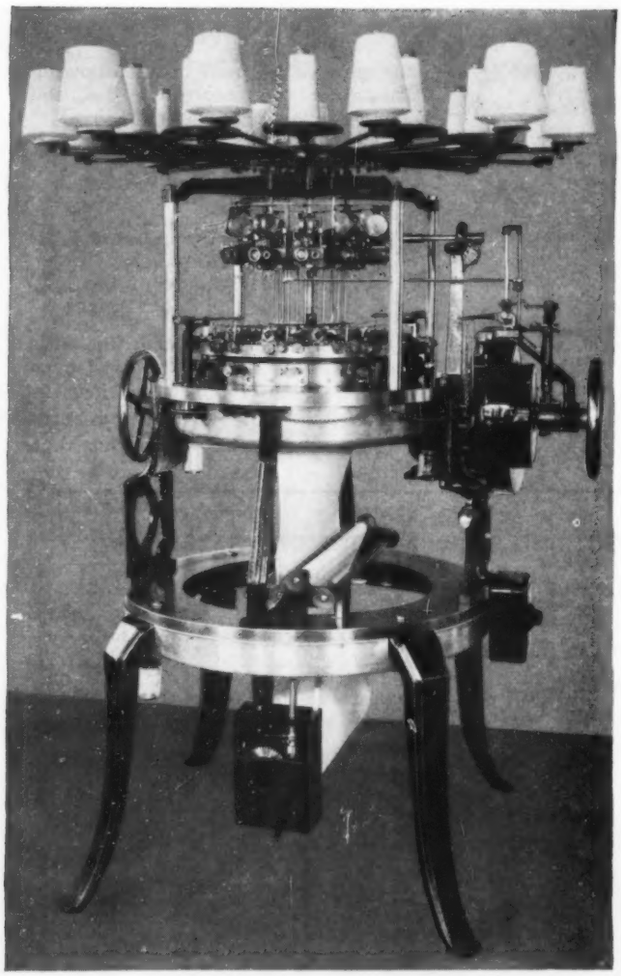
*Abstract of paper presented at 1949 annual convention of American Association of Textile Chemists and Colorists. Readers of this section will also be interested in other information presented at this meeting. See pages 108-115 of this issue. Of particular interest will be the article "Nylon Staple in Hosiery" by D. L. Keckert of Du Pont; it appears on page 115.

NEW KNITTING MACHINES DEMONSTRATED

W. Clifton Elder (left), president, Elder Hosiery Mill, Burlington, N. C., is shown the new 2½-in. Komet Links-and-Links machine at a special demonstration for northern North Carolina manufacturers. Jay Woodburn, Scott & Williams, Inc., High Point, N. C., is explaining the special features of the machine. Scott & Williams brought models of each of their four new knitting machines to Greensboro, N. C., in order that manufacturers in that area might see just what the new machines can do.

BECAUSE OF ITS REMARKABLE

ADAPTABILITY



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For Better **STYLE**
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and very fine **GAUGES**..

The
WILDMAN
Spring Needle Knitting
MACHINE

THE WILDMAN MFG. CO.
Norristown, Pa.

diffuses into the fiber where it is consumed. If reagent is exhausted by the wool as quickly as it diffuses through the liquid film, the rate of reaction is controlled. However, if the rate of diffusion through the liquid film is rapid compared with diffusion through the solid fiber, chlorine accumulates at the surface which soon becomes saturated and the rate is then controlled by diffusion through the solid.

The treatment will be even under these conditions since the rate, and therefore the extent of reaction at any one point, becomes independent of all external influences such as fabric construction and uneven agitation. The rate, when fiber diffusion is controlled, depends on the fibers which, though non-uniform for wool, are randomly distributed and unevenness over large areas of fabric is impossible.

The Wolsey-Stevenson process (U. S. A.-Sanforlan) makes use of these factors. Hypochlorite acting jointly with alkaline permanganate gives excellent resistance to severe milling. Alkaline permanganate oxidizes the wool without attacking the disulphide bond, and is therefore a perfect assistant to the disulphide bond attacking nature of hypochlorite.

Poppy Seeds Make Tension Control

POPPY SEEDS make a perfect tension control for yarns feeding into stretch fabric constructions on flat knitting machines.

Uniform yarn tension, although of primary importance in the production of "relaxed" foundation material, is difficult to obtain by mechanical tension devices. This is attributed to the delayed recuperation factor characteristic of elastic yarns, and also, the intermittent feed motion of the flat knitter.

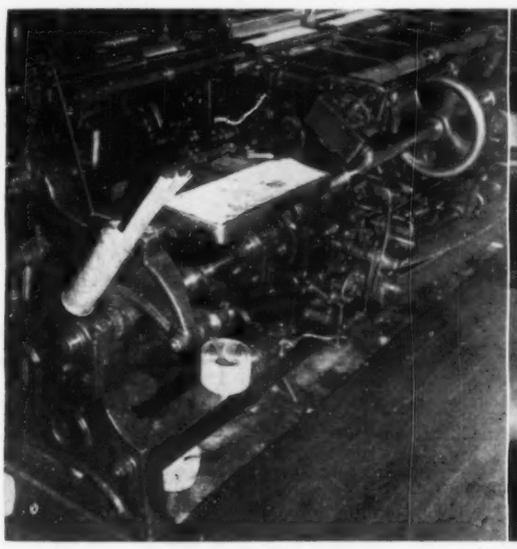
However, poppy seeds scattered around the bottom of the elastic yarn cone provide the exact degree of control. About ¼ of a pound of seed is poured into a suitable cone container which is fastened to the yarn feed table. The cone is pushed very gently not more than ⅛ inch below the surface of the poppy seed pile.

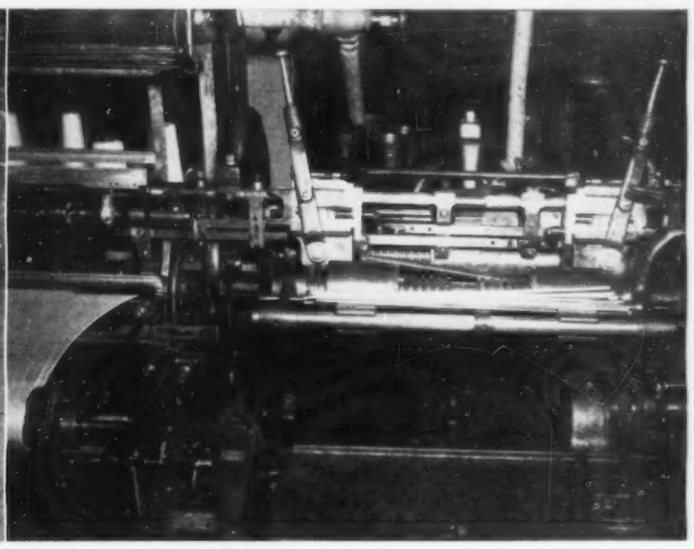
Each granule of seed exerts a minute increment of resistance against the yarn unraveling from the bottom of the cone. Depending upon how rapidly and with what force the elastic yarn unwinds from the cone, seeds are popped a certain distance from the cone proportionally to the displacing force. The pile immediately relevels and the cycle is repeated on the next stroke of the knitter.

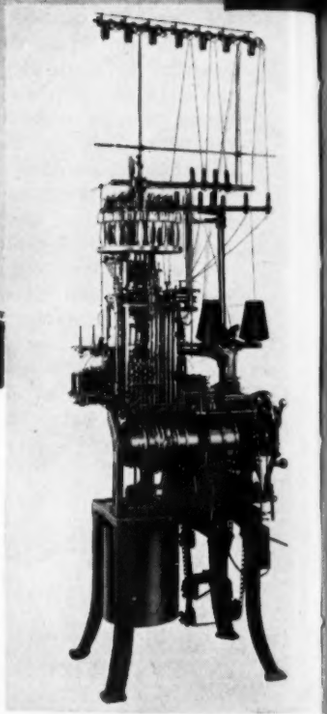
HANDY WELT BAR HOLDER FOR FULL-FASHIONED MACHINES

In one full-fashioned mill the machine fixer installed metal tubes on the end of each knitting machine to provide a convenient holder for welt bars. Photo at left shows the improvised container installed on a machine. The welt bars are readily accessible to knitter.

Photo at right shows welt bars placed on a machine where they were kept before the installation of rack back attachments. Further use of this location for welt bars would interfere with operation of the rack back attachments (for round heel construction). The holder serves as a permanent location for welt bars when not in use and also helps prevent the bars from falling on the floor, becoming soiled, damaged, or lost.



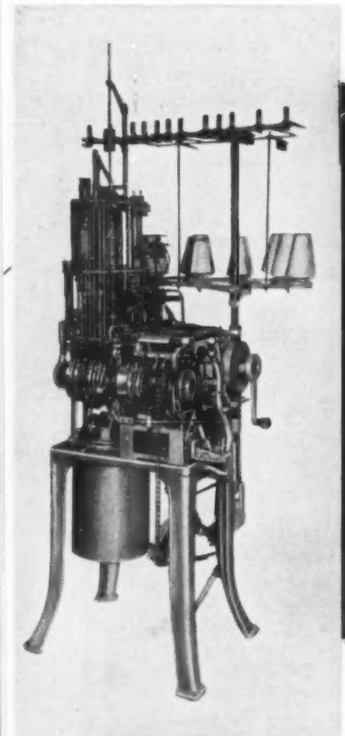




The Scott & Williams Komet Wrap Machine

Smart Embroidered Clocks with Wrapped Patterns on Komet Broad Ribs in a Single Automatic Operation

No need for expensive hand embroidery or Swiss clocking machines.



The Scott & Williams Infants' Komet Links-and-Links Machine

An Endless Variety of Links-and-Links Patterns and Ribs in Both Tops and Boots of Infants' Sox and Anklets, Plus Picot Edge

Produces a new and varied line of infants' hose. Frees manufacturers of the difficulty of two machine operation and the staggering expense of hand transfer knitting. *This machine is completely automatic.*

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Looping and Seaming Machines

Operation and Maintenance

Article 3

By S. H. BOYER
Wisteria Hosiery Mills

THE AUTHOR continues his discussion on hosiery seamers and loopers with this third installment. In this article is considered the Union Special Class 41300 hosiery seamer. The information presented here is of value for instruction purposes, and it is also a helpful compilation of facts about the machine for the experienced mill man.

A HOSIERY SEAMER that is flexible can be adapted to seaming all weights of cotton, rayon, silk, and nylon full-fashioned hosiery. The Union Special Class 41300 hosiery seamer is flexible. It will seam round heel hosiery from the toe through the welt with a continuous seam. It can be used equally well on conventional square heel work where both heel and toe are looped and where a stop is required in the seam at the heel. Special attachments for the machine make it useful in mock seaming circular knit hosiery.

The seaming machines are received from the factory in a wooden case, and they should be carefully unpacked to prevent damage to delicate parts. The lid of the case should first be removed, then the parts and accessories should be taken from the upper compartment. The plywood separator should be taken out of the case, exposing the machine which is held in place by wooden cross bars and a machine screw fastened through the bottom of the case into the machine.

The case can be placed on a stand or rack in an upright position so that the screw, which holds the machine in place, can be removed from the bottom of the box. Gently lift the machine from the case, being careful to prevent damage to the fabric uncurler and other parts.

After the seaming machine has been secured to the table, remove the oil filler plug on the left side of the machine and fill the reservoir until oil shows slightly above the half-way mark on the sight gauge. Do not use an inferior oil. If there is doubt about the correct oil to use, consult a lubrication engineer from one of the reputable oil companies. He will recommend a suitable grade of oil. Proper lubrication is essential to the satisfactory operation and long life of the machine.

Improvements on Hosiery Seamers. In describing the Union Special hosiery seamer, it will be assumed that the machine bears a serial number higher than 340,471, and is complete with all the new developments such as thread ratio control, clutch compensator, new style feed cup presser spring, balancing mechanism, new compression type clutch springs, uncurler type K60543 or K60161, looper 41308 B, narrow feed cups 41362 A, stationary needle guard 41325 F, stitch tongue support 41366 E which is marked G on square end, stitch tongue 41397 B marked DF, and the standard sliding eyelets held in adjustable collars mounted on the front and back looper bars.

The instructions given in this article will apply generally to the

The progressive development of fabric uncurlers is depicted here. The uncurler at extreme right is No. K60161. It is the latest improvement for seaming fine denier nylons. The second uncurler from the right is No. 60543, and is sometimes preferred in many grey goods rooms.

Your knitting moves faster, better with

STANDARD Durene*

superior mercerized combed cotton yarn

And that's important today on two counts—Standard Durene helps keep your production costs down . . . helps you get your share of sales being created by the big national Durene campaign.

The secret of Standard Durene's more even knitting, greater production and salability is *our rigid control of all processes in our own plants from selected raw cotton to finished yarn.* Start specifying Standard Durene today as hundreds of Durene licensees are doing. Standard Durene's free-running smoothness, uniformity and beautiful luster pay off in low-cost production and sales. 10's to 120's ply, natural, bleached and dyed.

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Made of Durene® multi-ply mercerized combed cotton yarn
4 WAYS BETTER than ordinary cotton yarns
EXTRA COMFORT ---more absorbent
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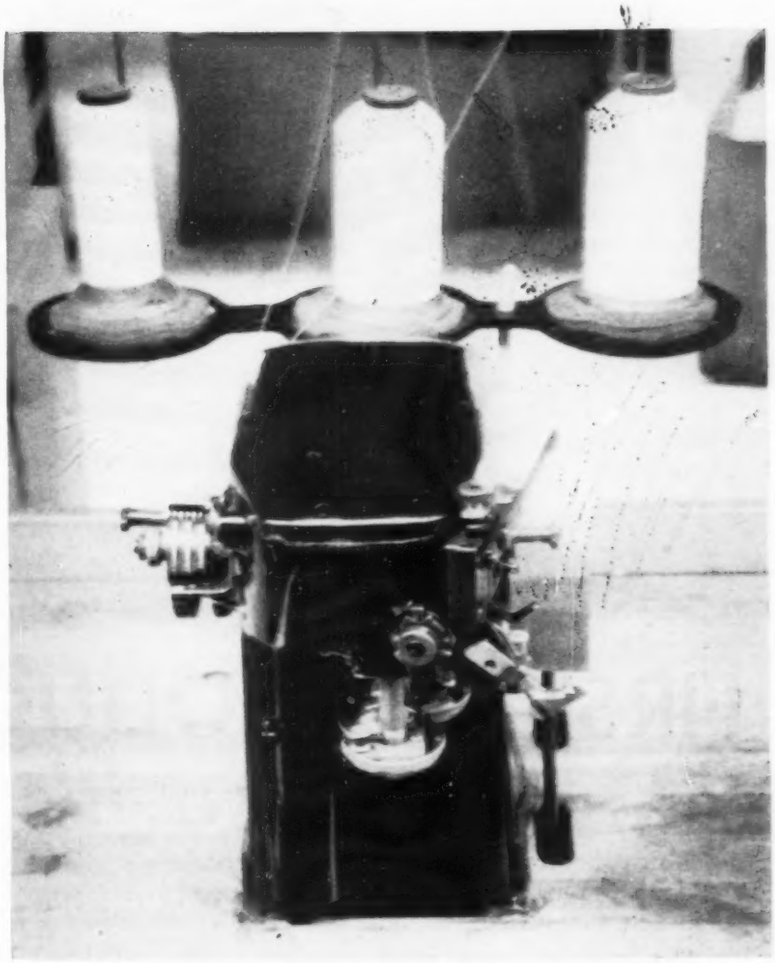
older class 41300 Union Special hosiery seamers which have a serial number below 340,471, and which may have only part of the refinements mentioned above. However, it should be remembered that they can be modernized by the addition of all of the late model attachments. The installation of the balancing mechanism is the only item that will necessitate the machine being returned to the factory.

Checking the Machine. In referring to the machine and the various adjustments, the point of view will be from the operator's position while seated at the machine ready for seaming the stocking blanks.

Before applying power to the machine, it should be turned in the direction of rotation which is clockwise facing the right hand pulley, and it should be checked to see that there is no interference between moving parts. This preliminary inspection can prevent the breakage of costly parts, and is a worthwhile procedure for any mechanic.

It is especially important that the relation between the front hook and back hook, both hooks and the stitch tongue, both hooks and the needle, the needle and the stitch tongue support, the needle and the stationary needle guard, be carefully checked and set to the exact specifications given later under the heading for each machine part.



A new type hosiery seamer complete with thread ratio control, new type fabric uncurler, and all other recent developments, thereby making this machine one of the most modern in use.

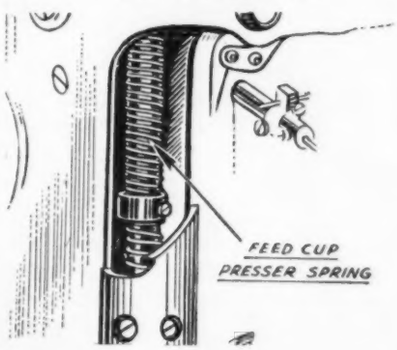
Adjusting and Regulating the Feed Cups. The rear feed cup is the proper starting point for a general check of the external parts of the machine. To adjust the height of the rear feed cup, run the needle bar to its extreme forward position towards the operator, at which point gauge number 21227L should barely pass between the upper edge of the feed cup and the needle bar. If the adjustment is incorrect, loosen the two set screws in the feed cup and raise or lower it to the correct height. Then tighten the set screws.

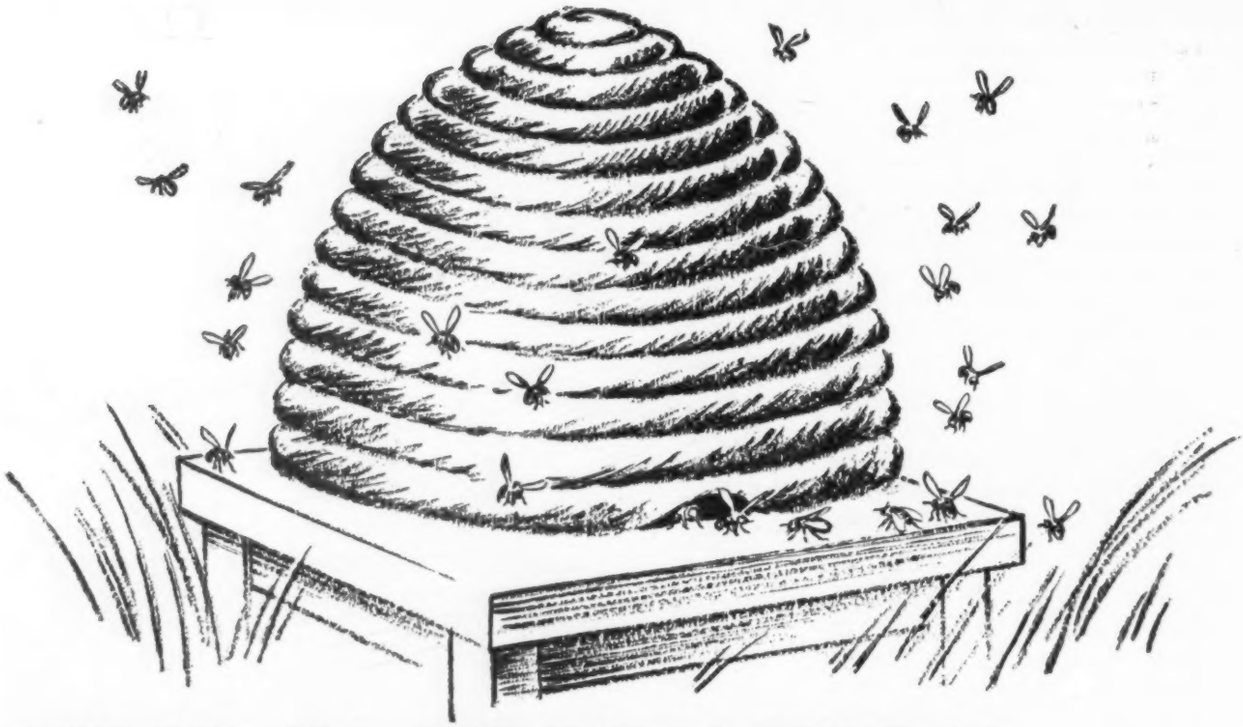
Check the height of the front feed cup which should match the height of the rear feed cup. To adjust the cup, loosen the clamp screw in the front feed cup pivot shaft bracket and raise or lower the assembly to the desired height. The front feed cup must not be higher than the rear cup; otherwise the needle point may strike against the edge and be damaged or broken.

To regulate the feed cup pressure, remove the presser spring cover and adjust the presser spring regulating screw so that it exerts only enough pressure on the front feed cup to feed the fabric properly. Too much pressure must be avoided to prevent damage to the fabric, especially if fine denier nylon is being seamed. Mono-filament yarn is easier to cut than high twist ply yarn after it is knitted into a fabric.

Observe the position of the front feed cup separating lever and be sure that the collar is set in a position that will allow the cup to close properly. The front cup should be set so that the teeth mesh the full depth with the teeth on the rear cup. Two adjusting studs are located on the upper left

The feed cup presser spring is shown as indicated in this cutaway view of the seamer.





FIRST IN PRODUCTION
because it's automatic

Watch the bees—see how they work. Back and forth . . . back and forth . . . continuous, completely automatic operation.

That is what happens when you set the timing device on the Turbo Preboarder—

(1) for women's hosiery
(2) for men's half hose, either plain nylon yarn or crimp-set nylon yarn.

It is just *one* machine. Forms are interchangeable. One set of forms moves into the steaming chamber while the other set of forms moves out. Nothing to do but strip and dress the forms.

Production—up to 145 dozen pairs per 8-hour day with one operator.

The Turbo Preboarder is steam-tested for 30 lbs. pressure—permits shorter preboarding time. You can run two sizes at one time because there are two groups of 18 forms each.

With Turbo there is no banging or jolting to disturb the fabric or injure the threads—or jangle the nerves! It moves gently—automatically—with watch-like precision.

Let us send you the Turbo story—20 pages, fully illustrated. Covers both Boarding and Preboarding. It's the next best thing to seeing Turbo Machines in operation. Write for it today.

TURBO MACHINE CO., LANSDALE, PA.

NYLON STEAM SETTING

Turbo Steam Setting Machines are now in successful operation in the crimp-setting of nylon staple and the steam-setting of nylon finished garments. Write us about it.

TURBO
Preboarder

side of the machine. The front stud regulates the distance the front feed cup moves toward the rear cup, and the rear stud regulates the front feed cup opening.

To adjust the cups, loosen the set screw on the front stud and turn the stud until the spring pressure against the stud is released and the front cup bears tight against the rear cup. Then turn the front stud counter-clockwise until it barely contacts the front feed cup separating lever. If there is no perceptible play between the feed cups, tighten the set screw.

Open the front feed cup completely and check the space between the cups with gauge number 21227M. It should barely pass between the cups. Turn the rear stud to make the necessary adjustment. The feed cups should be kept free from broken teeth and nicks to prevent picks and pulls in the nylon fabric.

Checking the Needle. To properly install a needle, turn the short groove up and insert it as far as it will go into the needle holder. Tighten needle set screw. The needle should be turned slightly to the left to enable the front looper to pick up the needle loop more readily. Clearance between the needle and feed cups when the needle bar is in extreme forward position, should be .003 of an inch. To make an adjustment, raise or lower needle holder.

Setting the Stitch Tongue Support. The front edge of the stitch tongue support should be even with the bottom of the teeth on the rear feed cup, and should be set to rest lightly on the top of the feed cup. This position will prevent pull threads along the selvage of fine denier fabrics. On most types of fine denier hosiery, the stitch tongue support should be set about one-half the depth of a tooth on the rear feed cup. This will improve the appearance of the seam by preventing whipping of the selvage while the machine is in rapid operation.

The needle should clear the right side of the slot in the stitch tongue support by .003 of an inch, and the right side of the slot should rise perpendicular. A slanting side may cause needle breakage when the operator pulls on the work while matching the sides of the stockings evenly.

Setting the Stationary Needle Guard. The stationary needle guard should be set so that the needle is parallel with the slot, and has .003 of an inch clearance between the needle and the right side. It is recommended that the front edge of the stationary needle guard be set even with the bottom of the teeth on the front cup. However, if the fabric has a tendency to roll outside the seam, or should the selvage show on the right hand side of the stocking as it passes through the machine, then the stationary needle guard should have more clearance, even to the extent of showing half the thickness of the sidewall of the front feed cup.

The stitch tongue support and the stationary needle guard should always be used in sets of corresponding thickness. This will prevent knotty appearing seams by supporting the selvages evenly on both sides of the stocking blank.

Shims of various thicknesses from .004 to .009 of an inch are available for use in obtaining the correct height of the stationary needle guard. It should rest lightly on the top edge of the front feed cup without binding.

Setting the Needle Bar. Place gauge number 21227QA on the left side of the front feed cup, having one pin resting against the left side of the front cup, and the other pin fitted snugly between the front and rear feed cups. Hold the gauge in position with the left hand. Turn the hand wheel until the needle comes to its extreme forward position at which time the needle point should rest against the front prong of the gauge.

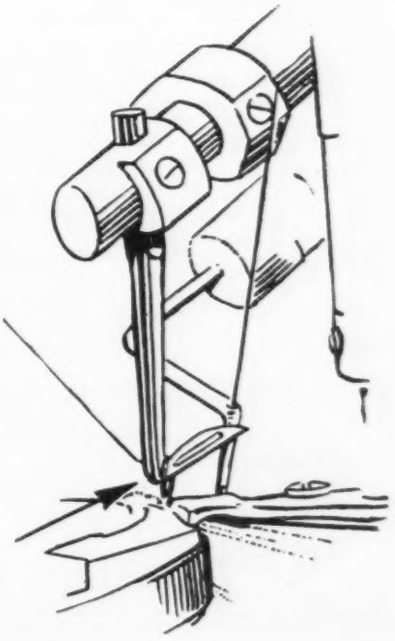
If the needle bar is set incorrectly, remove the plug from the right hand side of the machine, loosen the needle bar set screw and make the required adjustment. When the setting is correct, tighten the set screw securely and replace the plug. Do not remove the gauge until the front looper is checked for timing.

Checking the Front Looper. To check the front looper, have gauge number 21227QA in position with the needle bar in its forward stroke, and the needle point resting against the front prong of the gauge. Turn the hand wheel in the direction of rotation until the needle moves rearward and its point comes even with the middle prong on the gauge; the point of the front looper should now be directly over the center of the needle and against the rear prong of the gauge, and should pass in the center of the notch in the needle.

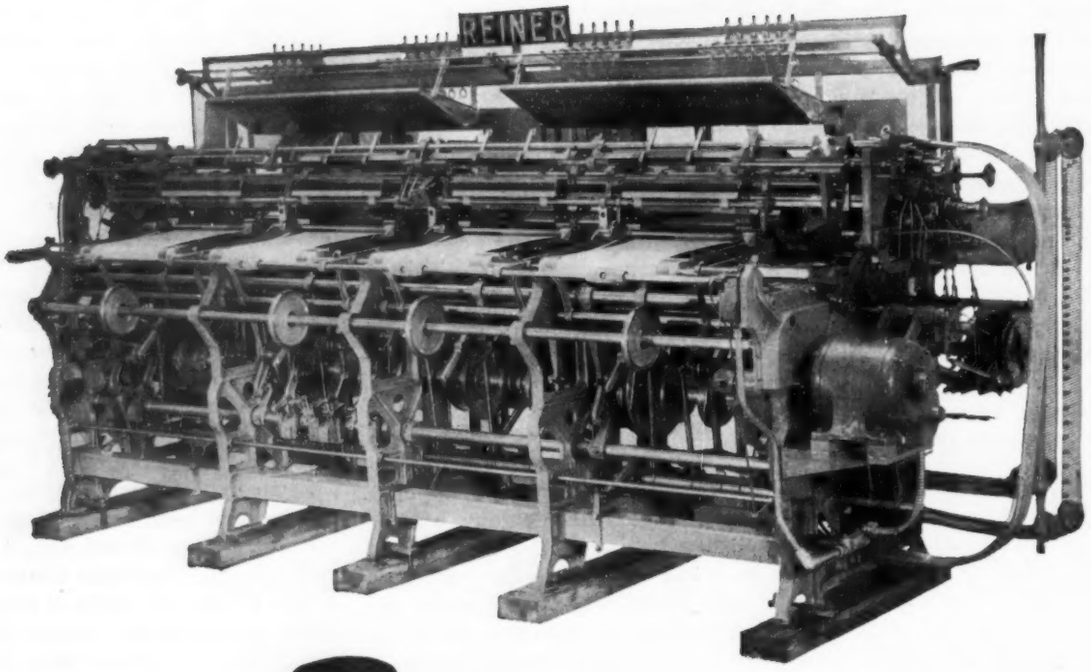
If the looper is not in this position, remove the top cover from the machine and move the looper bar forward, rearward, or swing it laterally until the front looper is in the correct position.

Securely tighten all screws which have been loosened during the adjustment. Do not permit any play to remain between the collars on the looper bar inside of the machine. The looper should clear the needle by about .003 of an inch as it crosses the notch. Re-

The relation of the back looper to the front looper is shown here. The position of new looper No. 41308B in relation to the stitch tongue is indicated by the arrow.



Announcing 66 GAUGE



4 Section *Reiner* FULL FASHIONED

TWIN KNITTER

We are glad to announce the Reiner Twin Knitter is now being made in 66 gauge.

The Reiner 60 gauge twin knitter has already earned itself a firm reputation for efficient production, economic operation, low maintenance, and a steady, even flow of highest quality merchandise.

As with the present 60 gauge machine, no air conditioning system is needed with the new 66 gauge twin knitter.

Up to eight machines can be run by one operator. Sturdy, simple construction. Knitting width 15 inches. Up to 8 yarn carriers. Machines come fully assembled, hence no setting-up delays. High-speed knitting and fashioning. The semi-automatic welt turning is the only manual operation connected with the entire knitting cycle. All other movements and functions—from start to finish of a complete stocking—are fully automatic. Many other features.

You are cordially invited to inspect this latest 66 gauge model in our showrooms in Weehawken.

Also, a richly illustrated catalog is yours for the asking.

FOUNDED IN 1903

ROBERT *Reiner* INC.

550-564 GREGORY AVENUE
WEEHAWKEN, NEW JERSEY

10 MINUTES FROM TIMES SQUARE. Take Bus Nos. 61, 67, 167 from the Times Square Public Service Terminal at 260 West 42nd Street, New York City. Get off at Pleasant Avenue, Weehawken, New Jersey. From there turn left and walk through the underpass up to Gregory Avenue . . . TELEPHONE: UNION 7-0502, 0503, 0504, and 0505. From New York City call LONGACRE 4-2217.

move the gauge to set the looper needle guard. The front looper should be kept free from all nicks and scratches caused by broken needles, and slippage of the back looper which will scar the back surface. The looper can be polished with strips of fine emery cloth and then finished with crocus cloth. The point must be free of spurs which will cause thread breakage and skipping.

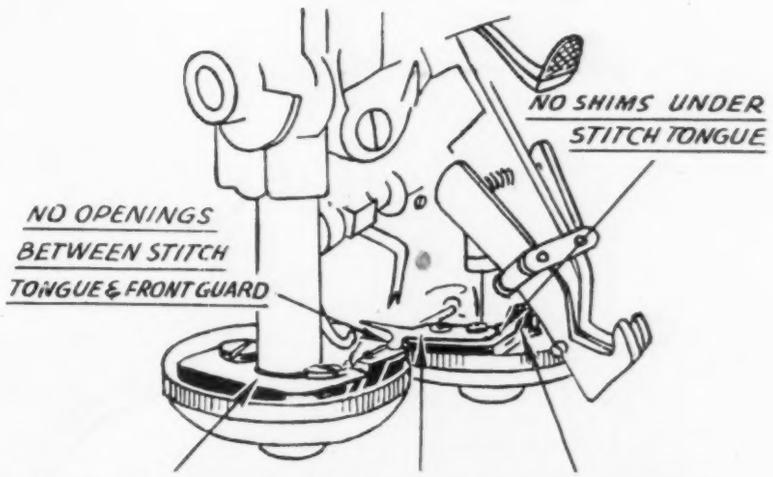
Setting the Looper Needle Guard. The looper needle guard should be set very close to the needle as it crosses, and it should be approximately 3/32 of an inch in front of the nearest part of the needle eye. The distance should be measured at the time that the looper point is even with the center of the needle.

When the front looper is in position, and the needle is raised slightly by springing the needle holder upward, the needle should touch the looper needle guard just before the point where the looper makes contact with the needle at the closest place in the notch. The needle holder can be sprung slightly without any damage to the needle bar. Only about .003" play is necessary for the needle to contact the looper and guard.

Installing the Back Looper. Turn the hand wheel in direction of rotation until the point of the front looper is directly over the center of the needle. Hold the back looper gauge (Number 21227NA) so that the back pin rests snugly between the two feed cups and the front pin bears against the front feed cup on the right side, with the indicator notch turned up.

Set the back looper so that its point is even with the top of the gauge and rests in the indicator notch. Check the clearance between the front and back loopers at their closest point. The back looper must clear the front looper by approximately the thickness of a piece of note paper. The correct clearance can be obtained by raising or lowering the back looper slightly with the gauge removed.

The gauge gives the approximate setting of the back looper, but it is sometimes necessary to make a small change in the setting in order to obtain satisfactory machine operation. The back looper must be kept free from burrs and scratches and should be highly polished. Check the clearance of the back looper point as it passes the stitch tongue support. The new stitch tongue support Number 41366E marked G has a groove or recess to clear the back looper point as it passes.

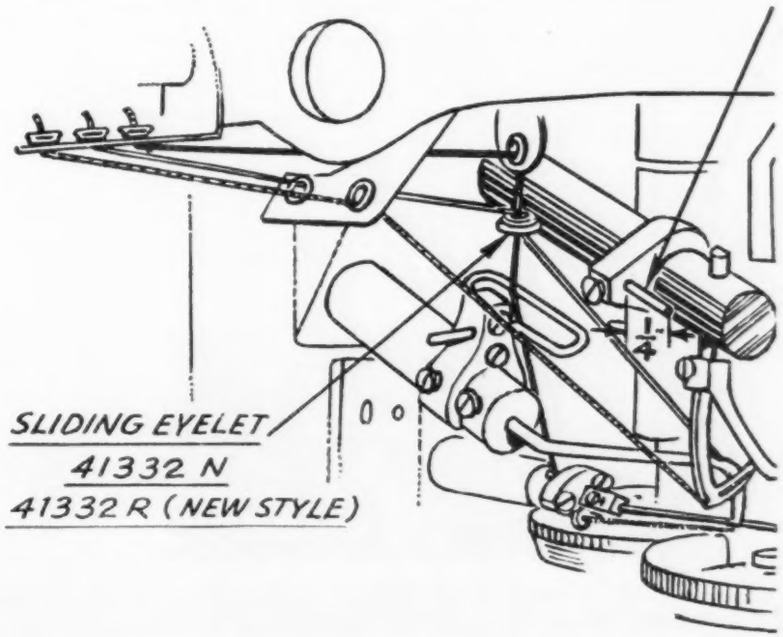


This illustration shows the stitch tongue in the correct position between feed cups.

Aligning the Stitch Tongue. The stitch tongue that seems to be giving the most satisfaction in the hosiery industry is Number 41397B marked DF. Stitch tongue DD does not seem to be adaptable to present fine denier nylon because it has a tendency to pucker. Beautiful seams can be obtained by using the DF tongue along with the fabric puller plate.

Use gauge number 21227L or a piece of cardboard to align the stitch tongue. Set the tongue so

Standard setting of sliding eyelet is ¼-inch. This distance (indicated by arrow) should be increased to relieve needle thread breakage.



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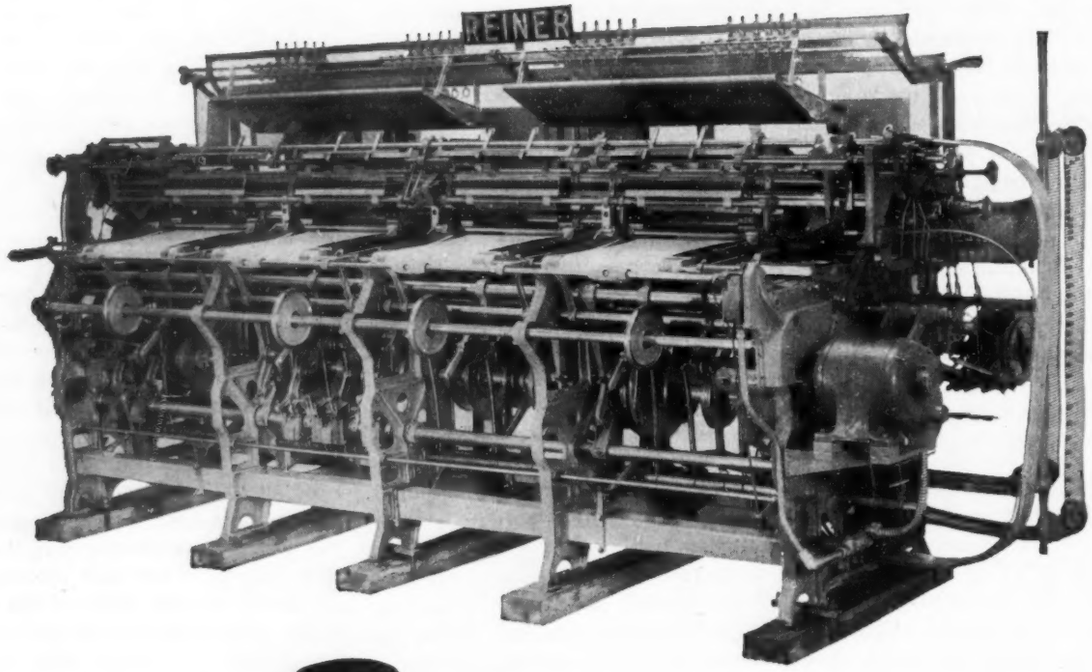

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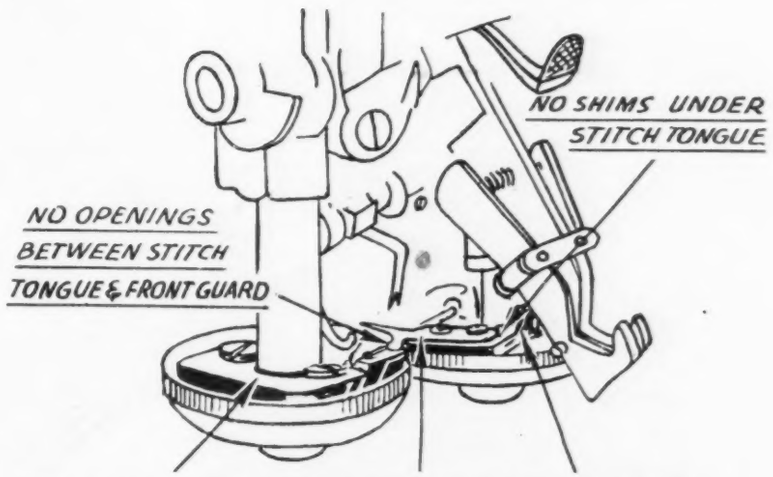

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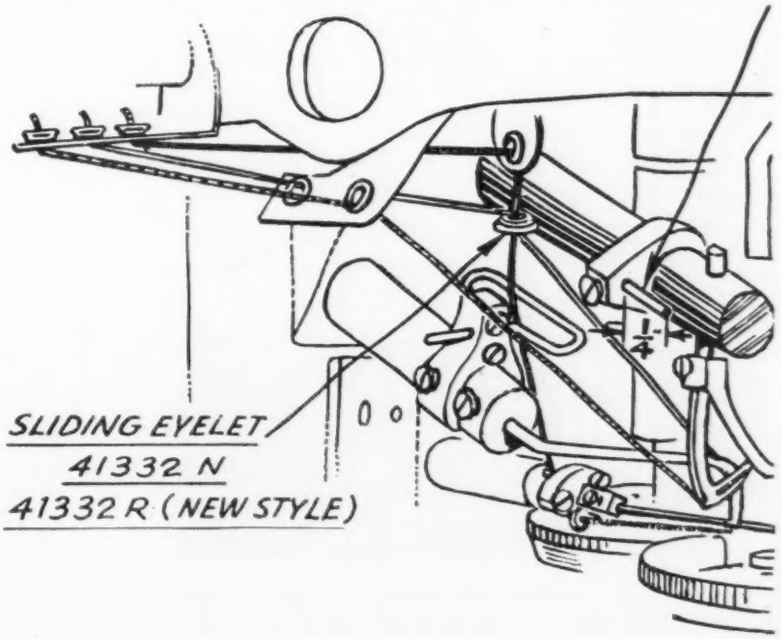
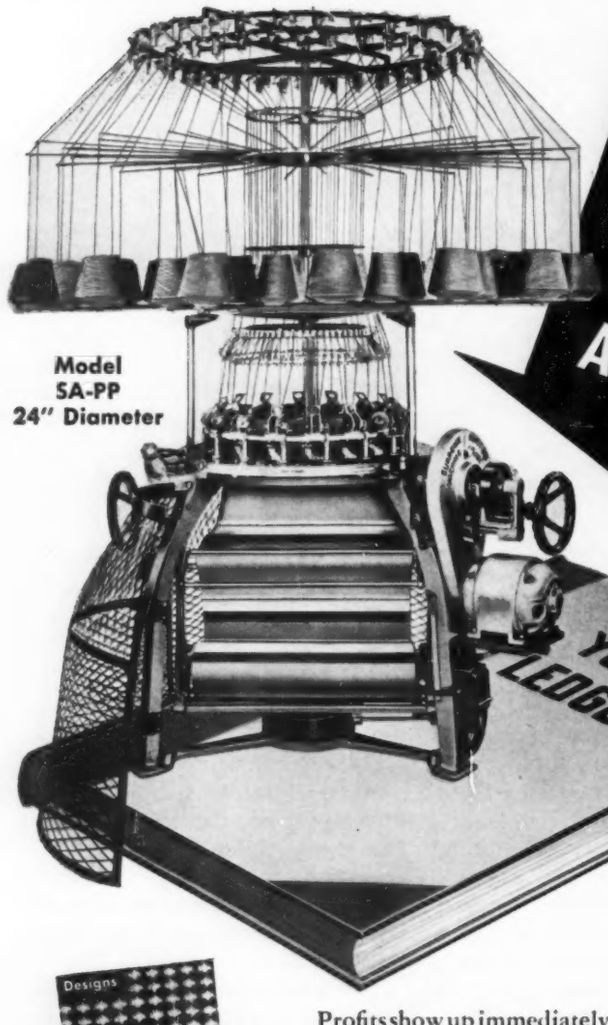
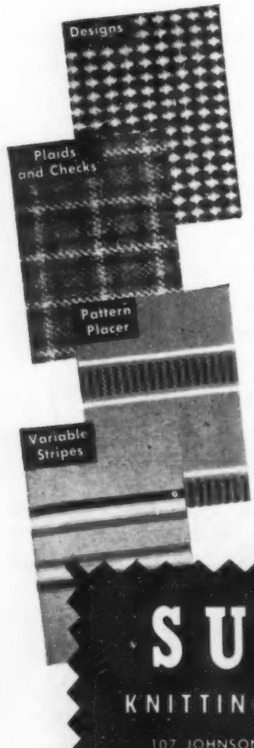




Model
SA-PP
24" Diameter

HERE'S WHERE THE FEATURES IN SUPREME'S AUTOMATIC STRIPERS Pay Off

YOUR LEDGER



Profits show up immediately when you put the exclusive features of Supreme's SA-PP to work for you.

Here's why! Stationary yarn stand and new, unique striping system make it the World's Fastest Striper . . . 30% more poundage. Synchronized Cutters* eliminate all waste. Automatic Pattern Placers* allow you to knit plaids, checks, designs, variable stripes or Pattern Placer cloth on one machine.

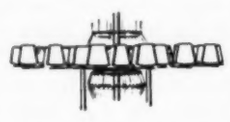
Keep ahead of your competition. Investigate the simple and versatile Model SA-PP today. Write for free cloth samples and the booklet, "Variable Stripes and Plaids Pay."

EXCLUSIVE FEATURES!

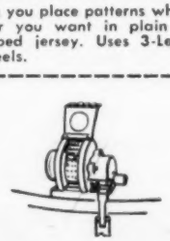
30% FASTER, 30% MORE CLOTH
The cylinder and take-up revolve at the sensational speed of 24 revolutions per minute. The stationary yarn stand makes this speed possible.

"NO-WASTE" CUTTERS*
Synchronized cutters clip off and hold yarns going out of action, eliminating all waste. No heavy seam. No need to reverse cloth for finishing.

AUTOMATIC PATTERN PLACER*
Lets you place patterns wherever you want in plain or striped jersey. Uses 3-Level wheels.



STATIONARY YARN STAND
Assures trouble-free, long-life operation at continuous super-fast knitting speeds. Allows "pigtail" double tie-up of yarn cones. No brakes necessary.



INDIVIDUALLY CONTROLLED, FOUR-COLOR STRIPING BOXES*
Make stripe selecting simple and flexible. Infinite stripe and design variations. Can be manipulated to produce six-color striped fabrics.

SIMPLE STRIPING CONTROL MECHANISM*
A simple, short chain with only two types of links gives varied stripe selection desired.

*Patents Applied for

SUPREME
KNITTING MACHINE CO., INC.
107 JOHNSON AVE. BROOKLYN 6, NEW YORK, N. Y.

Also builders of Supreme Model MJ Jersey Machines, Model IC Coating Machines, Model ML Pile Fabric Machines, and Model ROF "Floatless Jacquard-Type" Pattern Wheel Machines. Mills throughout the world knit with Supremes. SK-126

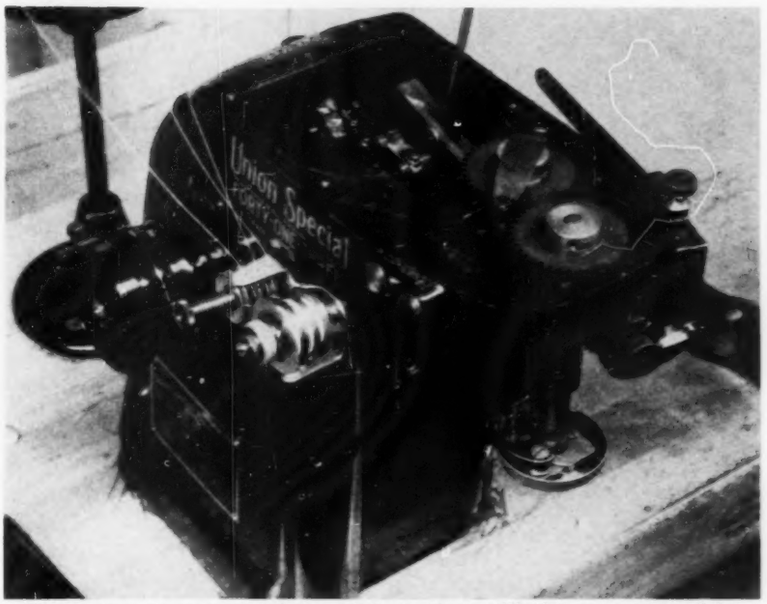
that its recess underneath is about evenly divided between the feed cups, and its point is even with the back edge of the gauge or cardboard which should be inserted between the feed cups prior to installing the stitch tongue. Turn the machine over by hand to make sure that the front and back loopers clear at all points. The stitch tongue can be raised by installing shims underneath it. The shims should be .005 of an inch thick. The stitch tongue must be kept free from burrs and nicks and should be polished.

Setting Front Looper Bar Collar and Eyelet. The front looper bar needle thread take-up eyelet collar should be set so that the distance from the center of its set screw to the center of the looper set screw is approximately 7/16-inch. The centers of the two set screws should be along the same plane and should not be disturbed in adjusting the eyelets to prevent skipping and in improving the seam. (See illustration.)

The setting for the front looper bar needle thread take-up eyelet will vary according to the kind of thread being used. For cotton thread, it should extend through the collar approximately 3/8-inch toward the operator.

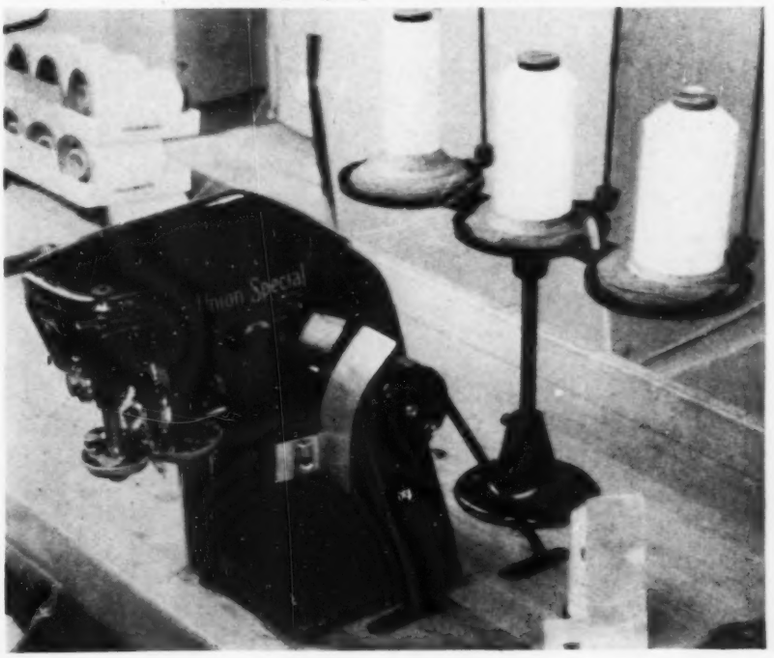
For ordinary nylon thread such as K-8 or Z-8, the front end of the eyelet should extend through the collar by 1/4-inch. When using preshrunk thread, the eyelet may have to be moved back until only about 1/8-inch shows through the collar. This adjustment is necessary because pre-shrunk thread has an extra amount of elasticity and if the eyelet pulls the thread excessively, skipping will result. The eye of the eyelet or the opening, should be vertical when the point of the front looper is even with the center of the needle.

Setting the Back Looper Bar Collar and Eyelet. The collar on the back looper bar should be so set that when the point of the front looper is even with the center of the needle, the rectangular thread eyelet will be on a level plane with 3/8-inch of the end of the eyelet extending through the back looper bar collar to the left. Rotate the collar to the right or left to get a satisfactory position for handling various kinds of thread. Cotton thread requires the collar to be moved to the left. For K-8 or Z-8 thread use a neutral setting; for



The end of the screw driver points to the oscillating counter weight which is a part of the balancing mechanism in this hosiery seamer. The counter weight has helped eliminate vibration, resulting in clearer vision and reduced fatigue for the operative. The improvement can be installed on older type machines if they are returned to the factory for the change.

The shield in front of the pulley is a simple homemade attachment which has done much to protect the eyes and keep the glasses of the seamer operatives clean. It prevents oil from being thrown toward the eyes and glasses due to the momentum of the handwheel. Cut out the pattern shown standing upright on the table, then shape and attach to the machine. The notch is placed back of the sight gauge for the oil level.



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MAXIMUM FEED R. B.

RIB BODY MACHINE

For Infants', Children's, Boys', Ladies' and Men's Underwear

This very modern production machine with individual motor drive, free wheeling, improved large capacity take-up reel and extra feeds is the latest contribution by BRINTON to progressive underwear manufacturers. Built in sizes from 8" to 26" diameter, from 8 to 26 feeds. Plain or automatic 1x1 and 2x2, for a great variety of stitch combinations.

Write for Special Bulletin No. 808

This Trademark on your machine represents more than half a century of experience.

H. BRINTON COMPANY

KENSINGTON AVENUE and M STREET PHILADELPHIA 24, PA.

pre-shrunk thread, swing the collar to the extreme right.

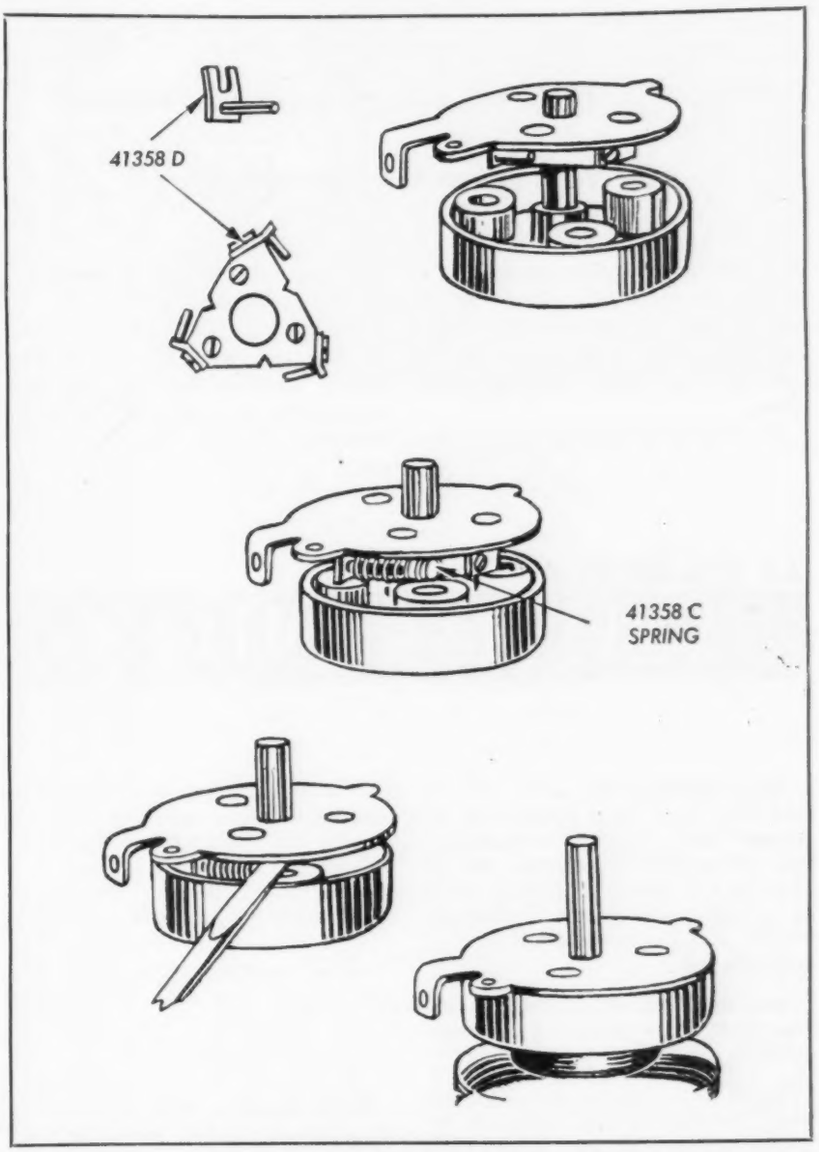
Adjusting the Stitch. To adjust the stitch length to accommodate the fabric being seamed, remove the oil filler plug from the upper left side of the machine. Loosen the nut and move the ball joint upward to lengthen the stitch, and move it downward to shorten the stitch. Tighten the nut securely when the desired stitch length is obtained. The stitch range is from 14 to 20 for the grey goods.

Clutch Compensator Controls Uniformity of Stitch. The clutch compensator is a valuable addition to new or old machines. With the aid of this addition the stitch length can be controlled at various machine speeds during operation. The compensator consists of an adjustable spring which acts on a brake spring bearing providing a braking effect that prevents the overthrow of the clutch barrel. The clutch barrel controls the movement of the feed cups which feed the work being seamed. It can be seen that jerky, erratic operation of the clutch barrel will cause the stitches to be uneven, resulting in knotty seams.

The clutch compensator can be quickly installed in machines not equipped with it. It is necessary to remove the entire clutch assembly for the installation of the new compression type clutch springs which reduce clutch slippage; therefore it is a good plan to install both the clutch compensator and the compression type clutch springs at the same time.

The new parts are interchangeable with the parts already installed, and approximately one-half hour is all that is required to complete the entire job and have the machine back in service. The improved appearance of the seams more than justifies the small expense involved in purchasing the new units.

Flushing the Machines. The machines should be flushed periodically with a good grade of flushing oil such as is used in automobiles. By using this type of oil, one can be certain that the oil contains desirable qualities.



The successive steps in assembling new type clutch springs are shown here from top to bottom.

Continued use of the same oil in a machine will result in dirt and sludge accumulating in the reservoir and in the clutch barrel as well as on other parts. This results in excessive wear on moving parts, and is the principal cause of clutch slippage.

To flush a machine, remove the machine from the table, remove the top and invert the machine to drain the old oil. Replace the machine in position on table, fill with flushing oil and operate it until all of the dirt and sludge is suspended in the oil. Drain the flushing oil before the dirt settles, then fill the machine with an oil recommended by the machine manufacturer. The flushing oil can be strained through a cloth and used again or as often as desired. Flushing greatly prolongs the life of the machine.

Recommended Speeds . Union Special class 41300 machines having the complete balancing mechanism, cast iron cover, clutch compensator, and new compression type clutch springs can be operated satisfactorily at speeds up to 4500 rpm.

(Continued in an early issue)

Full-Fashioned Outerwear Machine Development Announced

Production of fine gauge full-fashioned cashmere, spun nylon and zephyr sweaters is now possible with the development of a new full-fashioned knitting machine.

According to reports, in appearance and some phases of operation the full-fashioned outerwear machine is the counterpart of Cotton's patent spring needle machine widely used in Scotland for the production of cashmere and wool sweaters. It also is said to resemble closely the domestic sectional hosiery machines.

The full-fashioned outerwear machine consists of ten knitting sections. Gauges range from 15 to 27, the number of needles to the inch being two-thirds of the gauge. The basic loop forming elements consist of the spring beard needle, sinker, divider and moveable knockover bits. Other elements involved in the formation of the loop are the yarn carrier and the presser edge.

Fred C. Good & Sons, Philadelphia, Pa.

For additional data, request item L-202, using business reply card on page 206.

AN EYE ON THE KNITTING MILLS

Utica Knitting Co., cotton ribbed underwear and union suits, is in the process of carrying out an expansion and modernization program at the Mill No. 9 in Anniston, Ala., in order to provide considerable increase in output. Additional equipment is being installed.

Monroe Mills, Monroeville, Ala., has work under way on a one-story addition.

Vanta Co., Newton, Mass., underwear, union suits and hosiery, is reported as arranging for the operation of a new mill at Moultrie, Ga., for the production of knit goods for infants and children, a regular line.

Union Underwear Co., New York, N. Y., has plans maturing for an addition to the plant in Bowling Green, Ky. Equipment will be installed for a large increase in capacity.

Landon Hosiery Knitting Mills, Inc., recently organized, has begun operations in a Greenville, Mich., building, and will manufacture a line of hosiery. Donald McGahan is head.

Mammoth Hosiery Mills, Inc., North Wales, Pa., women's full-fashioned hosiery, has completed arrangements for the removal of the mill to Iuka, Miss., where operations will be increased.

The recently organized **Davis Mills** has leased the ground floor of a building formerly occupied by Clark Thread Mills in East Newark, N. J., and intends to equip as a new plant for the manufacture of knitted rayon products for industrial service.

Israel Knitting Mills, Inc., New York, N. Y., has been incorporated with a capital of $275,000, to manufacture knitted outerwear.

Slane Hosiery Mills, Inc., fancy hose for men, has concluded arrangements for the purchase of the former mill and equipment of Thomas Mills, Inc., High Point, N. C. The new owner will carry out an improvement and modernization program.

Ware (Mass.) Knitters, Inc., has installed screen printing equipment in the mill, and henceforth will handle all of its printing requirements.

A mill in New York City will be operated for the manufacture of outerwear by **Arlington Knitted Fabrics, Inc.,** chartered with a capital of 200 shares of stock, no par value. Samuel Thierman, New York, is the representative.

Recently organized, **Trebor Knitting Mills, Inc.,** has leased space in a building in New York City to be occupied for the manufacture of outerwear.

Adams-Millis Corp., High Point, N. C., full-fashioned and seamless hosiery for women and men, respectively, has removed a number of full-fashioned machines from the mill in High Point to be used in a new plant now being established at Graham, N. C. The units at High Point will be replaced with new machinery.

Nutron Hosiery Mills, Inc., has been chartered with a capital of $100,000 to operate a mill in the vicinity of High Point, N. C. Incorporators include A. C., B. A., and M. O. Bollinger, Jr., High Point.

Stroudsburg (Pa.) Hosiery Mills, Inc., has been moved to a recently completed building on Highway 611, where expansion will be carried out. Plans include the installation of new 66-gauge machines and auxiliary equipment.

Palmetto Full-Fashioned Hosiery Mill, Inc., Saluda, S. C., has work under way on a one-story finishing mill, and plans to install four additional knitting machines and auxiliary equipment. The entire program is reported to cost close to $250,000.

Dr. Parker Holt Knitting Co., Inc., Boston, Mass., has been incorporated with a capital of 200 shares of stock, no par value, to manufacture knit underwear and other knit goods. It is understood that the company will take over the assets of Dr. Parker Holt Knitting Mills Co. in Canton, Mass. Cornelius C. Sheridan is president and treasurer.

Small-scale view
of a big advantage
Uniformity in every dimension—length, width and thickness—is essential in knitting needles if they are to produce uniform knitting. For only when they are all exactly the same—on a minute scale—can you be sure of pulling stitches that are neither tight nor loose.
Exacting control of the over-all length of Torrington Needles is assured by use of specially designed equipment and special methods of testing and checking. The result is a big advantage to you in controlling the quality of your knitting. Insist on Torringtons—the needles in the Red and Green box.
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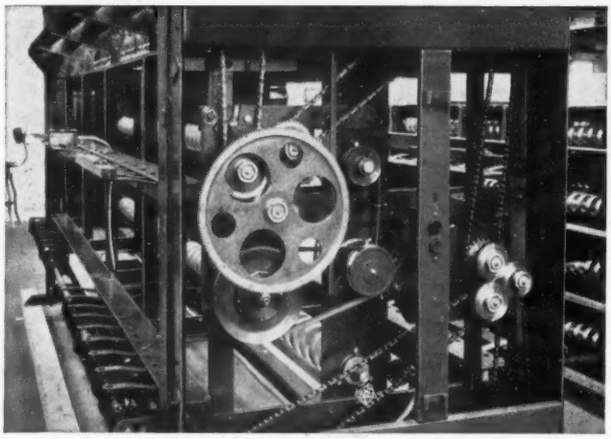
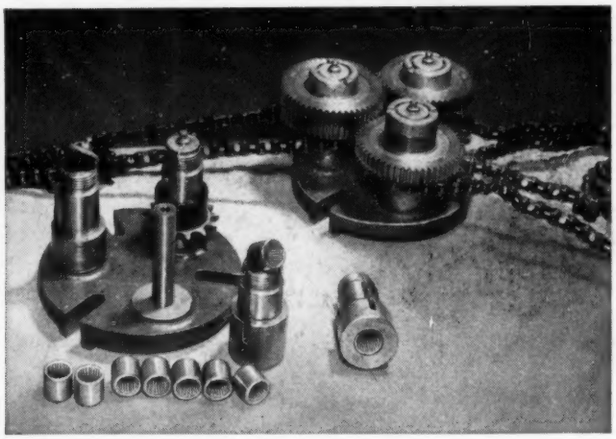
TORRINGTON
SPRING BEARD NEEDLES • SINKERS • DIVIDERS • SPLIT DIVIDERS

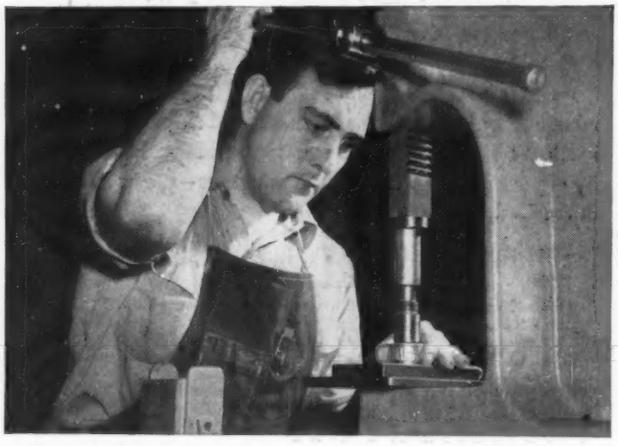
Torrington Needle Bearings simplify design and lubrication in Arnold Rubber Covering Machines



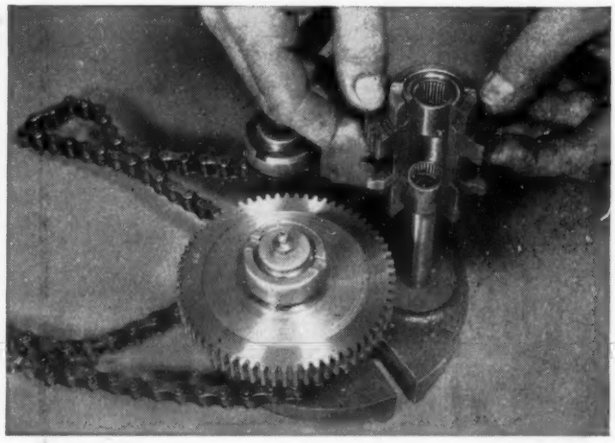
The H. H. Arnold Co., Inc., stresses simple design, rugged construction and easy maintenance on its machines, for covering rubber with cotton, rayon, or nylon yarn. The use of 28 Needle Bearings in the drive gears has helped satisfy these requirements.



Simplicity of the components of a gear assembly is apparent. Two Needle Bearings in each gear provide unusual stability. They reduce wear, keep gears in line. The turned-in lips of the outer shell retain oil, and reduce the frequency of lubrication.



Easy installation of Needle Bearings by a simple arbor press operation is another important advantage. The unit design facilitates handling. And because Needle Bearings take a firm press fit in the machined bore, they require no spacers or retainers.



Cutaway of the gear shows how entire unit is slipped over a hardened and ground shaft on which the Needle Bearings operate. Needle Bearings can be used in pinions of smaller diameter than is possible with any other type of anti-friction bearing.

This is only one example of the simplicity and efficiency secured in all types of textile machinery with compact, high-capacity Torrington Needle Bearings. Let our engineers help you adapt them to your equipment for better operation and longer service life. Write us today. THE TORRINGTON COMPANY, Torrington, Conn., or South Bend 21, Ind. District offices and distributors in principal cities of United States and Canada.

TORRINGTON *NEEDLE* **BEARINGS**

Needle • Spherical Roller • Tapered Roller

Straight Roller • Ball • Needle Rollers

New Retort Steam Sets and Hot-Air Dries

A new retort for preboarding or final boarding of women's hosiery is called "Duomold," Model 34, because of the two-fold characteristics of this model, which steam sets and hot-air dries.

Hot-air drying takes place in the same chamber in which the goods are steam set. During the steaming cycle the air-circulating inlet and outlet openings are made steam tight by two self-sealing louver doors. Immediately after steaming, these louver doors open automatically. Heated air is then circulated through the chamber by a centrifugal fan and ⅛ hp motor unit, quickly drying stockings on heated forms. No vapor remains in the chamber to escape into the boarding room.

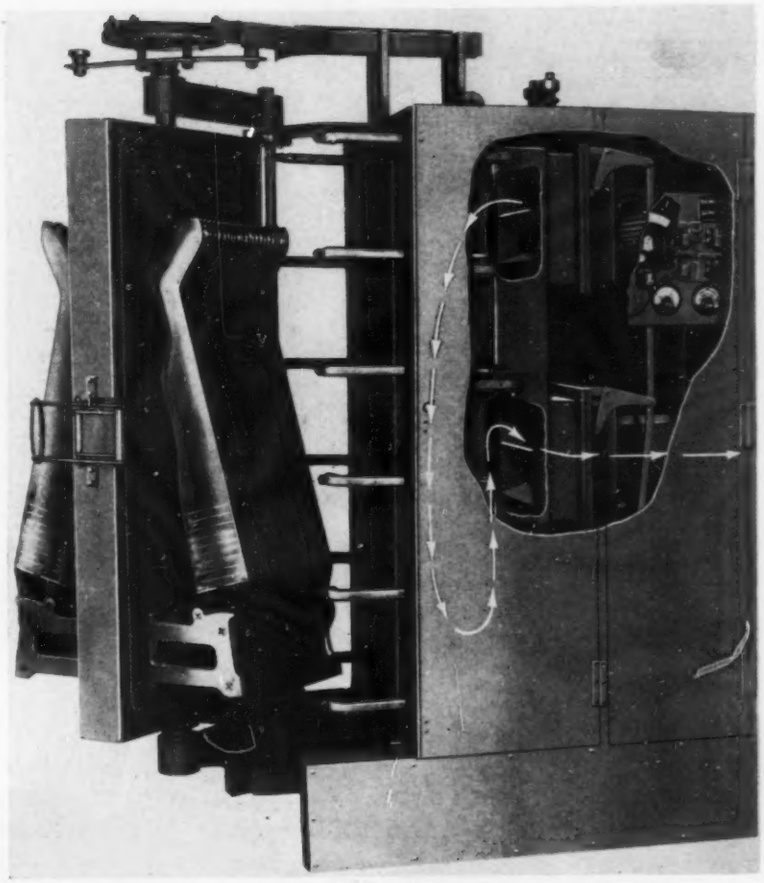
Compact, upright construction decreases floor space requirements. The retort has a 48-form capacity.

According to the manufacturer, stockings strip and pile faster, because they are thoroughly dried. Smoother finish and neater tops are other advantages claimed.

A companion model, Duomold 35, designed for half hose and anklets made of filament and spun nylon, has 72-form capacity.

Paramount Textile Machinery Co., 131 S. Wabash Ave., Chicago 3, Ill.

For additional data, request item L-201, using business reply card on page 206.



Duomold, Model 34, retort by Paramount. Hot air drying takes place in the same chamber in which the goods are steam set.

Knitting Yarn Values Stiffen

Spinners, processors and market purveyors of the various sorts of knitting yarn now occupy the strongest position they have had since early in 1949. Volume is below that recorded during first quarter of this year, it is admitted, but orders placed over the past eight to ten weeks have represented actual need.

A good many manufacturers are now seen to have misjudged, prior to Labor Day, the extent of merchandise orders and the weight of knitting yarn they would need. In most categories, there have been many repeat orders during the past several weeks. Along with this, regular customers have sought to extend their protection from the price angle as advantageously as possible.

In the cotton yarn sector, at the middle of October many of the carded and combed knitting yarn spinners had already booked ahead most of their production to the end of this year. This left the "short-term" buyers out on a limb as to prices. After plenty of dickering they came in and covered with carded yarns through late weeks of 1949. In combed yarns buyers seemed more cautious, but at this writing they are covering for the balance of 1949, with some inquiries for next quarter deliveries.

In woolen and worsted yarns, prices to knitters have been in some measure stiffened by high cost of raw wool. As to this commodity, devaluation of foreign currencies in September failed to lower the prices asked abroad for suitable wools. The foreign sellers simply raised their prices to dollar-buyers, to offset devaluation of their domestic monetary units. This has the effect of raising the cost of U. S. knitters who use such wools.

In some types of synthetics, it is indicated, prices are buoyed up by keeping customers in suspense as to allotments of yarn. The whole layout seems to point toward another era of commodity inflation in this country. This gives rise to an urge among knitters to anticipate a further rise by buying yarns now for 1950 use.

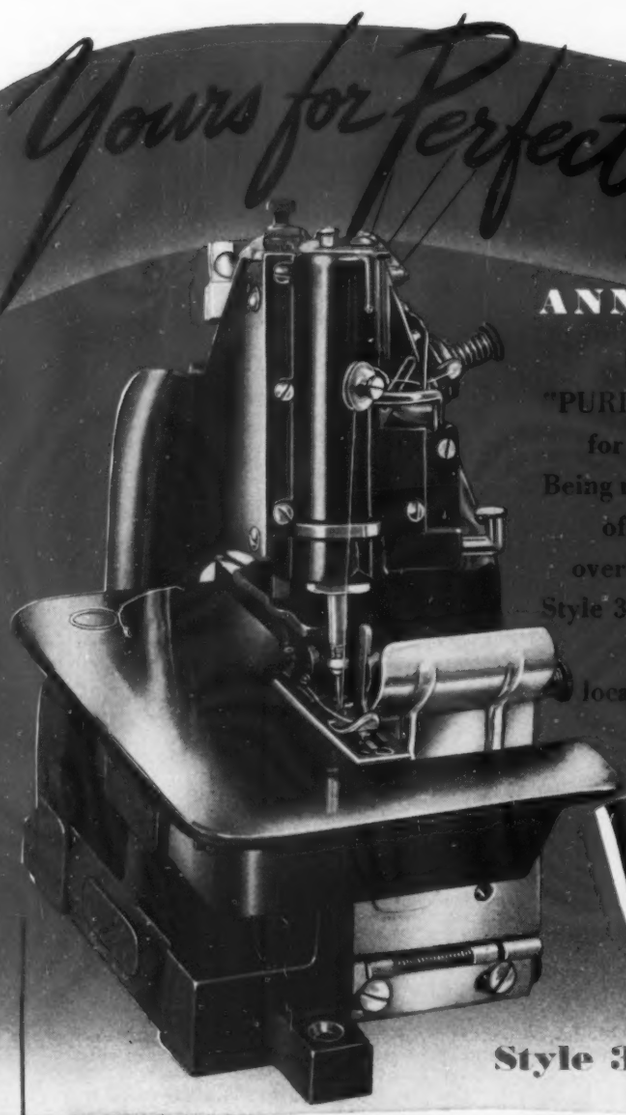
Under- and Outerwear Trade is Active

Major sources in underwear and outerwear knitgoods agree that fall and early winter business has been satisfactory. Medium and light-

Yours for Perfect Seaming!

ANNOUNCING . . .

Union Special leads again with the new "PURL-RITE" overseaming finish!—Yours for *finer finishing* of all kinds of knit fabrics. Being made available as an improved feature of Union Special's widely used Class 39200 overseamers, it is initially offered in Style 39200 AC for seaming knitted undergarments. For the complete story, see your local Union Special representative or write.



THE NEW UNION SPECIAL

"Purl-Rite"

OVERSEAMING FINISH

Style 39200 AC

NEW! IMPROVED!

Freedom from stitch distortion! Seam perfection maintained over varying thicknesses, around curves.

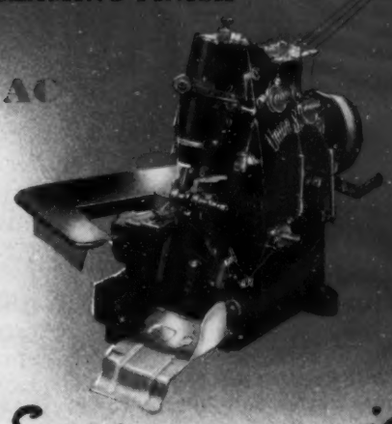
Finer appearance! Purl of stitch located uniformly on edge of fabric.

Additional elasticity! Needle thread pulled up tight, but with chain elastic.

Freedom from operating difficulties! Easier threading. Smoother, easier thread handling.

Controls compensate for thread irregularities.

No sacrifice in machine speed or production.



for Seaming Knit Fabrics!

The improved Style 39200 AC overseamer for making the new "PURL-RITE" finish (Stitch Type 504) is specially designed for seaming the lighter weights of flat knit, warp knit, and ribbed knit fabrics.

Union Special MACHINE COMPANY

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weight numbers moved in substantial volume, it is reported. Initial coverage was hesitant, it is admitted, but this eventually gave way to active search for replacements.

Some mills recently have had to withdraw key numbers, occasionally finding themselves falling thirty days or more behind scheduled deliveries. A short time ago they adopted the practice of shipping late goods by express.

Particularly has heavyweight cotton underwear moved in good volume, according to reports. Distributors more often have found spot goods difficult to locate. Last winter was unseasonably mild, and the assumption that large unsold accumulations had been lodged among wholesalers seems to have been misleading to retailers. Recent demand for early deliveries appears to show that the supposed heavy winter 1949 inventories either were marked down enough to furnish merchandise for special late season retail promotions, or else they never were as large as originally estimated.

Present outlook for spring is regarded as good. Most sources delayed opening spring lines for a month or longer because of pressure to get fall merchandise, and it is believed in some quarters this may result in retailers and wholesale houses taking early precautions against lateness in arrival of spring goods. It is believed by some observers that December 31 carryover of lightweight goods will be small.

Knitters Hopeful for Early 1950

The knitwear industry as a whole will enter the new year in much better position than many concerns expected last summer, and consequently leading observers in this field are inclined to expect more of the same—at least through the first quarter.

In some cases there are reservations, of course. For example, when and if customers of small working capital try to expand unduly, it is said to be a question as to whether their ability to pay bills will be as satisfactory next spring as it is now. However, as far as the mills are concerned, ratio between supply and demand for finished merchandise now seems likely to remain favorable during the next two or three months.

Some sources of hosiery and

announcing . . .

AUTOMATIC MOVEMENT OF STOCKINGS . . .

- *OFF INSPECTING FORM . . .*
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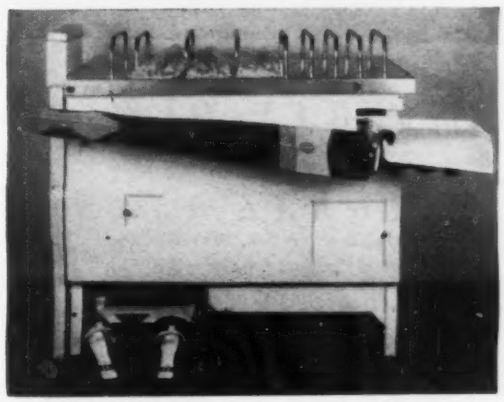

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ALLOWS OPERATOR'S ENERGY TO GO INTO ACTUAL VISUAL INSPECTING!

details later . . .

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speed your
textile processing—cut costs—
superior penetrants, scours, softeners

The speedy action of Laurel's new synthetic penetrants and detergents has won the approval of leading textile processors . . . their unusual penetrating and scouring qualities produce efficient results even in hard water.

LAUREL DIOTRENE T
—excellent penetrant and softener. Recommended as a wetting agent . . . may be used in finishing bath as softener.

SUPERGEL RS
—good scour used alone or in combination with alkalies. Fine dispersant, fast penetrant as well. Recommended for scouring cotton and synthetic fibers.

SUPERTERGE L
—efficient penetrant and dispersant. Stable in lime or acids. Satisfactory in hard water. May be used for scouring cotton goods and as aid in level dyeing all types of colors. Has outstanding absorbent and rewetting qualities.

Other Laurel Processing Aids
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Send today for trial order of these versatile Laurel Synthetic Detergents.

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for NYLON HOSIERY

Yarns wet with Kalpinol give a good stitch, then dry within two inches of the needles. Stitch remains set. Birdseyes or slipping of the stitch are avoided. Rolling is prevented, making seaming easier.

. . . a Kali lubricant that reduces friction on the needles and sinkers and also makes carrier tubes last longer.

For cleaning nylon size from your needles, sinkers, bits, etc., use K.N.K. (Kali Needle Kleaner). It can be used straight, or mixed with equal parts of water without separating.

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For Knitting or Weaving

*AMERICAN DURENE**
Highest Quality Mercerized Yarns

NATURAL YARNS
Combed Peeler or Sak, 10's—90's Single
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light and medium weight underwear occasionally have withdrawn offerings and at times the total weight of supplies for spot shipments have been described as "tight." It is pointed out that there are some adverse aspects. To illustrate: The new Wage-Hour law may mean that some producers must raise their prices. It is said to be still too soon for the mills to ascertain just how this may affect them.

Of more immediate consequence are the reductions in allocations of filament and spun yarns. It has been stated that spun nylon hosiery has been at times the most active number and therefore some mills have been planning to stress such merchandise in their future lines. What is regarded as uncertainty in yarn supply is understood to have caused producers to delay or revise their plans for spring.

In some quarters it has been noted there has been an increase among retailers in demand for women's silk hosiery. This is usually regarded as relatively unimportant, but has aroused considerable interest in the trade. It is thought remarkable, because there has been almost complete lack of any concerted effort to promote silk goods in the knitwear field so far.

Part-Nylon Sock Production Affected by Yarn Shortage

Manufacturers of men's and children's socks featuring nylon-reinforced heels and toes have encountered shortages of supply of nylon yarns at times during the last eight to ten weeks, according to reports. It is explained that this comes at an awkward time for many mills whose spring lines have been open for some weeks but who still are uncertain as to the long-range price picture, among other things.

Shortages and threats of future scarcity of yarn, it is said, are more serious for makers of men's goods than for those making children's. Wearing quality of the latter is less important, as socks and anklets are more apt to be outgrown by youngsters than worn out, whereas durability in men's socks is extremely important.

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FOR USE ON
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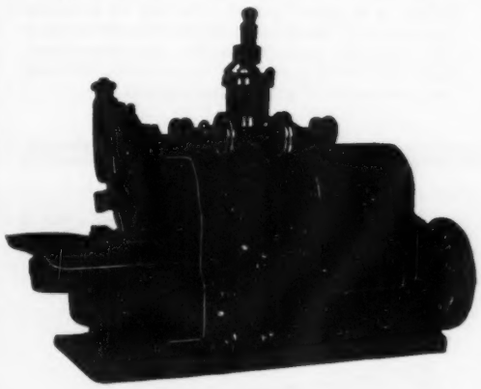

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MINIMUM TIME-OUT FOR ADJUSTMENT OR REPAIR
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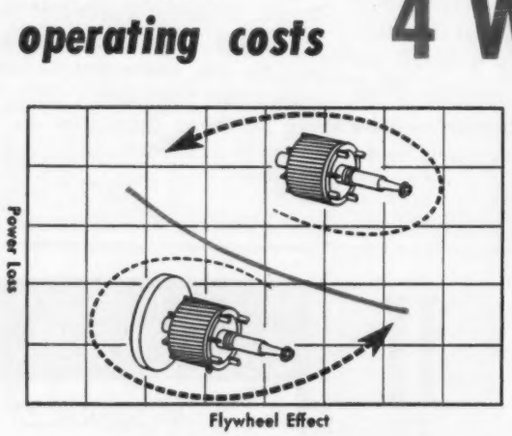
the new G-E flywheel loom motor

cuts loom operating costs 4 WAYS!

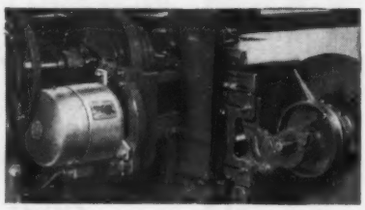


1. IT CUTS YOUR POWER COSTS!

Where a study indicates the need for a motor with additional flywheel effect, a *standard* General Electric loom motor with a flywheel integrally mounted will give you worthwhile power savings. As the chart shows, it reduces the peaks and valleys of the motor input, thereby cutting power losses.

2. IT CUTS THE SIZE OF MOTOR YOU NEED!

Often, a flywheel permits the use of a motor one size smaller than would be possible with a conventional loom motor. On the other hand, increased loom speed can be obtained without using a motor of greater horsepower.



3. IT PERMITS INCREASED PRODUCTION

With a flywheel on its shaft, a 1200 rpm motor may deliver performance equivalent to that of an 1800 rpm motor. This allows changing loom speeds in smaller increments and the use of stronger pinions—both well-recognized benefits.

4. . . . *and* IT ACTUALLY IMPROVES LOOM PERFORMANCE.

In mills where General Electric flywheel loom motors have been installed, reports indicate that a flywheel loom motor improves loom performance—loom fixers like the better "feel."

Ask your G-E sales engineer and your loom manufacturer about this new loom motor or, write for Bulletin GEA-5011B. Apparatus Dept., General Electric Co., Schenectady 5, N. Y.

TOTALLY ENCLOSED LOOM MOTORS

GENERAL ELECTRIC

Step Sheaves Eliminate Pulley Changes

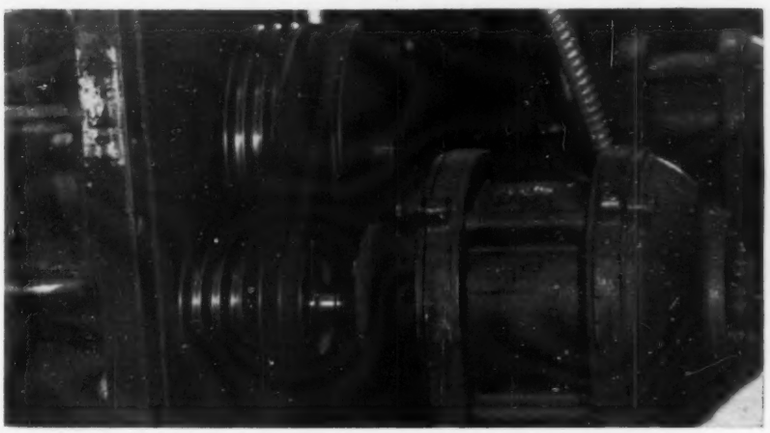
This item was the winning entry in a recent kink contest.

EDITOR TEXTILE INDUSTRIES:

The principle of the step pulley arrangement used on lathes constitutes one of the simplest and fastest methods of changing cylinder speeds on spinning frames and twisters. The drive is most advantageous when used on frames equipped with swinging type motor bases. On this type of base, less than a minute is required to lift the base, shift V-belts from one set of grooves to another, tighten the adjustment, and start the machine.

The step pulleys can be satisfactorily used on stationary bases. The steps are designed to give the same center distance with the belts in either set of grooves, consequently after each change, the motor drops back into its original position, and no adjustment for tension on the belts is required.

On frames running various numbers which require different speeds, a wide range of speeds may be attained by using different sizes of step combinations. Oftentimes on frames not utilizing full motor capacity, five conventional "B" belts can be replaced with four "Super" belts, making a two-step sheave of four grooves each. This is a practical arrangement.



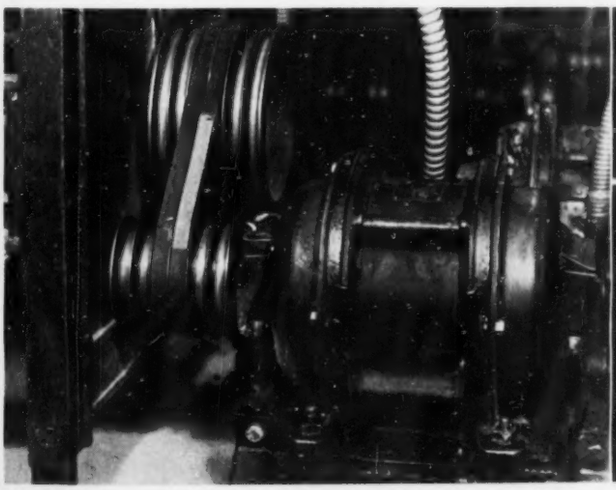
Two-step sheaves with three "C" sections of Super belts replacing seven regular "B" section belts on 15 hp warp spinning drive.

Where speeds are not too low, five belts having "B" sections may be replaced with two belts having "C" sections, thereby reducing the face of the sheaves to permit two- or three-step sheaves of two grooves each.

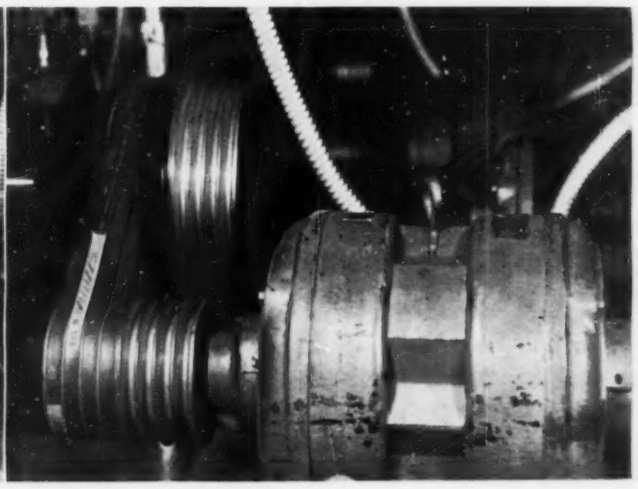
Another application is on 15 hp drives which usually require seven "B" belts. Three belts of "C" section are adequate to incorporate the change; therefore a two-step sheave of three grooves each can be installed and have the same face width as seven "B" sections. Many such drives can be installed without deviating from standard engineering principles, and the cost is not excessive.

CONTRIBUTOR NO. 8203

Three-step sheaves with two "C" Super sections replacing five "B" sections on 10 hp filling twister drive.



Two-step sheaves with four "B" sections of Super belts replacing five regular "B" sections.



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Cut to the exact thickness you specify; precision built and micrometer gauged to eliminate dimention variations; made of finest quality bark-tanned or chrome leather—KENTEX APRONS really do *fit better—wear longer* . . . and scores of mills (in which Kentex Aprons have been standard equipment for years), have found they can be depended upon to help produce more *uniform* yarn, and *more* yarn per machine.

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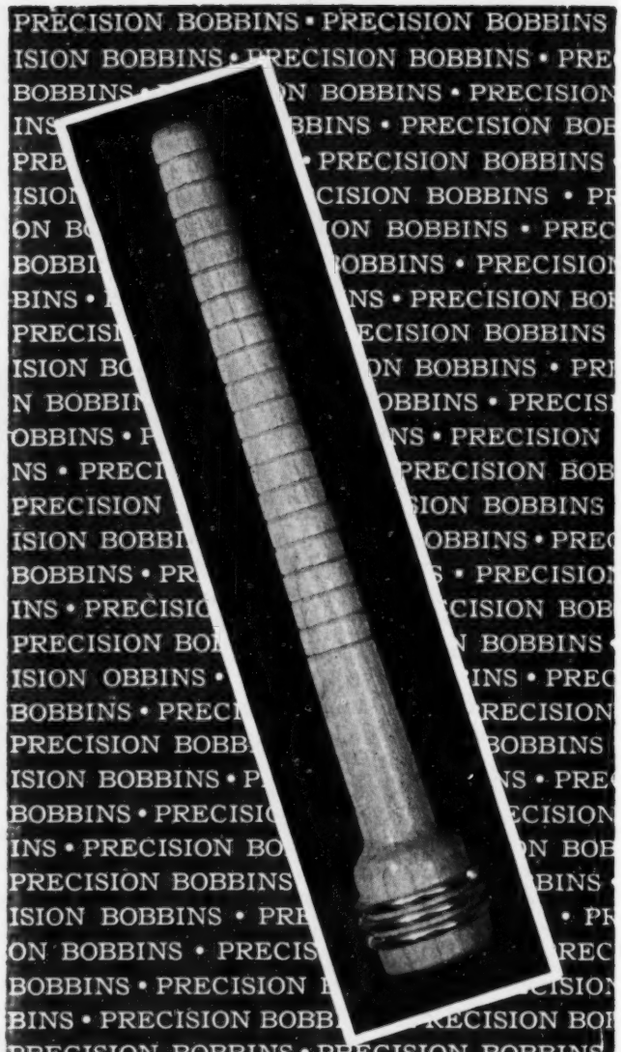

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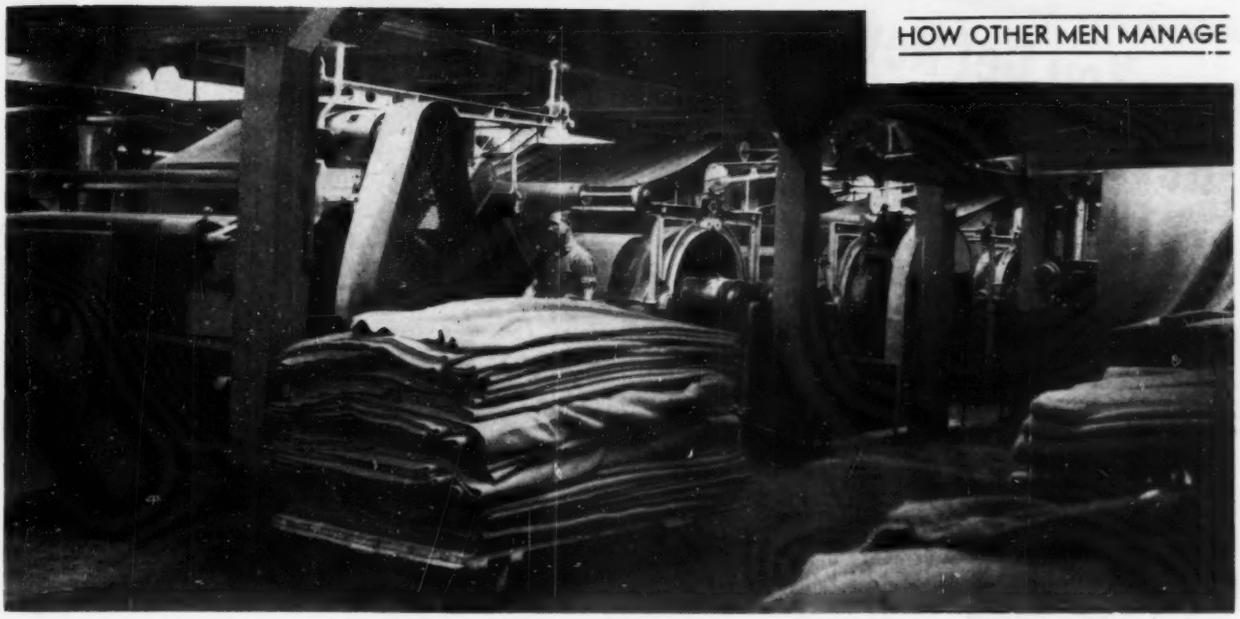

Continuous Napping of Woolens

Eight Woonsocket nappers in tandem process woolen goods continuously at Springfield Woolen Mills, Springfield, Tennessee. A reduction in costs is realized in handling and transporting goods from one machine to another. Sewing, refeeding operations, and the number of operatives required have been reduced to a minimum with this arrangement. The fabric to be napped is fed into the machine at one end of the line, and when it emerges at the other end it is completely napped.

Effect of Twist in Sizing Cotton Yarns

EDITOR TEXTILE INDUSTRIES:

In sizing cotton warp yarns, what are the major factors that determine the per cent of size added to the yarn? Is the concentration of the size solution the controlling factor, or should the twist in the yarn be given equal consideration? It is my opinion that the percentage of size added to any given yarn has a direct relation to the amount of twist in the yarn. We should appreciate any comments and opinions your readers may have to offer. Is there a table available showing the relation of twist to per cent size applicable to cotton yarns?

CONTRIBUTOR NO. 8222

Editor's Note: In order to be of immediate service to the reader, this question was answered prior to publication. The solicited information is published here along with the question. Other opinions are invited.

EDITOR TEXTILE INDUSTRIES:

Our opinion on the question posed by CONTRIBUTOR No. 8222 relative to sizing and twist is as follows:

The concentration of the size solution is the major consideration in sizing cotton yarns, but the amount of twist must be taken into consideration also. With the normal slight variation from a warp twist multiple of 4.50 to 4.75 there is no appreciable difference in the size content of the yarn. Where anything like a filling twist multiple of 3.50 is used, there will be an increase in size content of from one to two per cent.

The relationship between the added size content of cotton warp yarns is directly proportionate to the amount of twist; the greater the twist, the lower the amount of size that can be added.

CONTRIBUTOR No. 8232

◆

EDITOR TEXTILE INDUSTRIES:

CONTRIBUTOR No. 8222 can get a very good and complete answer to his question from reading the articles on sizing published in TEXTILE INDUSTRIES (Cotton Warp Sizing," by Paul V. Seydel—started with Aug. 1946 issue and concluded in March 1949; reprint now available in book form).

The question cannot be satisfactorily answered in short order;

You Get New, Revolutionary Control Of Yarn Sizing With The GAULIN HOMOGENIZER

Gaulin Homogenizer Model TE

THE biggest improvement in yarn sizing ever to hit the textile industry is now available through the *controlled* sizing method of the Gaulin Homogenizer.

It is easy to control the viscosity of your size on the Gaulin by simply turning the handwheel. Your regular size maker will quickly learn this simple, new method of operation. From then on you can be dead sure of the viscosity of your size, because the Gaulin Homogenizer will assure you accurate viscosity control day in and day out . . . plus cutting your costs and speeding up the whole cycle of size preparation.

Textile mills are installing the Gaulin in rapidly increasing numbers because it offers so many improvements over conventional methods of preparing size. The Gaulin Homogenizer eliminates any cooking of starch size, reduces shedding on slashers and looms, and offers many other important operating advantages and savings.

ACTUAL EXPERIENCE IN SUCH IMPORTANT MILLS AS CLUETT, PEABODY & CO., HOOSAC MILLS, AND OTHERS PROVES THAT THE GAULIN HOMOGENIZER OFFERS THESE 8 IMPORTANT BENEFITS:

1. Elimination of cooking time
2. Increased loom efficiency
3. Substantial reduction of shedding in the slashers and looms
4. Lower temperatures in the size box and slasher cylinders
5. Sizable increase in slasher speeds
6. Increased moisture content of the yarn
7. Controlled sizing of yarn
8. Accurate control of viscosity

It will pay you to investigate. Write for Bulletin T-149 describing the Homogenizing process in the Textile Industry.

(Patent Applied for)

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Wissco takes special precautions to make certain that the knee, formed by the angle and pitch of the staple, is accurate. Before an order is run off, test samples are checked with a card gauge. When the order is in production, a special instrument maintains an accurate gauge on the degree or pitch of the wire. And the fabricated clothing is checked again before it is precision-ground.

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however a few suggestions are as follows: "Among other things the factors which should be given consideration in sizing cotton warp yarns are count of the yarn, the weight of the set, the twist, and the end use of the warp. By end use we mean whether he wants to size for a finishing effect, as is often done in denims, or whether he wants a size which is simply light enough to give good weaving. To go to further extremes as an example, we cite the top warp on terry cloth which is often sized to the extent of only 2 or 3 per cent.

"Of course, one of the major considerations in sizing is to select the proper type of starch, whether it be thin boiling, thick boiling, pearl, or potato starch, which is best suited to his purposes. It is also essential that the proper amount of a high quality uniform sizing compound be used. Once these factors have been properly determined for the conditions at any one mill, we would say that it has been our experience that the twist of the yarn, where it has a certain effect, is of minor consideration.

"Only a small amount of size is necessary to set the twist in any yarn. Normally a highly twisted yarn is tighter and will not take up size as readily as a loosely twisted yarn; however it usually has more strength, less fuzziness, and therefore needs less size.

"We believe that the difficulty of the weave, that is such things that are generally affected by the type of weave and the picks per inch, is probably the most important consideration. The percentage of size added to the yarn for these different conditions cannot be determined with a pencil and a piece of paper, but must be worked out in the individual mill according to the type of cotton, the loom settings, the humidity, the starch, the compound, and many other factors.

"Once the percentage of size has been worked out, the concentration of the size solution required to give the percentage can be easily figured. This concentration should be tried out on the slasher. We usually find that certain adjustments will have to be made in the concentration due to the mechanical action of application in various slashers. Once the optimum concentration of the size solution has been determined, this should be considered as the major factor for operation by non-technical personnel, and should be maintained as rigidly as possible."

CONTRIBUTOR NO. 8233

Card Attachment Enables Production of Sliver of "Double Carded Quality"

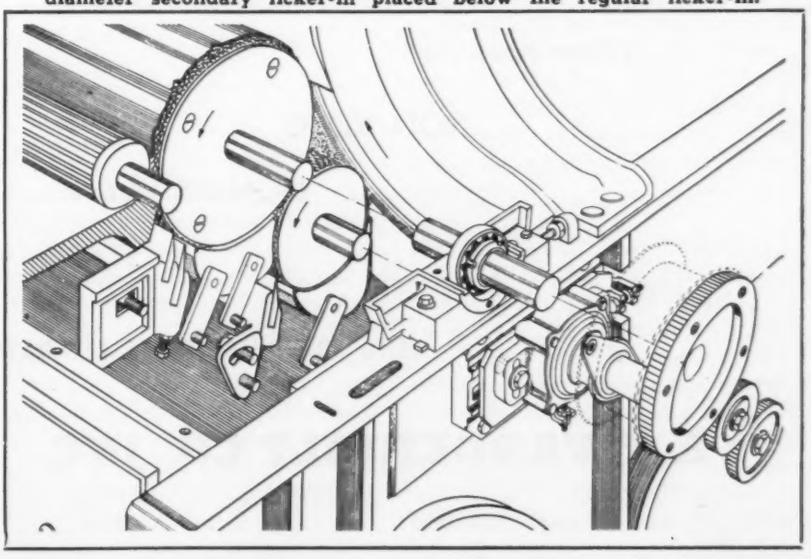
EDITOR TEXTILE INDUSTRIES:

The combined Egyptian Mills Ltd., is a Lancashire spinning combine. A recent invention of their technical executive director, George Clapperton, has evolved a system of carding which has wide potentialities and is becoming known as the "Nuclotex" system.

This method of carding consists essentially of a small diameter secondary licker-in placed immediately below the regular type licker-in, as shown in the drawing. Both lickers-in are set close to the cylinder; the regular licker-in is adjustable horizontally in the usual manner, and the Nuclotex roller can be adjusted vertically and horizontally.

The action of the licker-in and Nuclotex roller is briefly as follows. The fringe of the lap held by the feed roller and disk plate is combed in the usual manner. Two mote knives extract the heavier impurities as the stock is brought forward to the first perforated adjustable undercasing. After passing the first undercasing the stock is met by the teeth of the Nuclotex roller. These teeth, similar to but finer than those of the regular licker-in, take the stock from the regular licker-in, pass it over another mote knife and then to the cylinder. The stock which is firmly held is given a thorough combing by the Nuclotex roller and transferred from the regular licker-in to

The Nuclotex method of carding consists essentially of a small diameter secondary licker-in placed below the regular licker-in.



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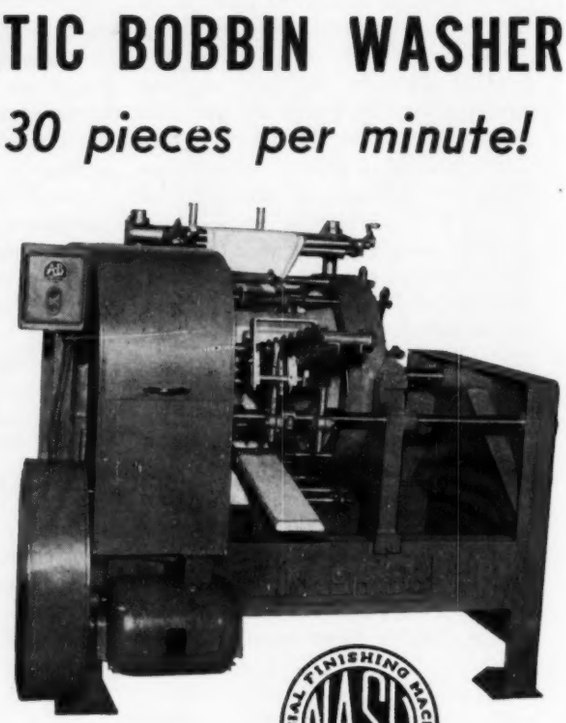
Washes flanged bobbins at 30 pieces per minute!

This new Nash No. 89 is a ten-spindle machine that does the entire washing and wiping operation automatically from start to finish. It's a *real money saver.* Eliminates the time and expense of hand washing. No dirt is left on the bobbin which would soil the yarn on the finished fabric. The cleaning solution used has no harmful effects on yarn, either natural or synthetic.



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We also manufacture Automatic Bobbin Finishers, Quill Polishers and special-purpose machinery.

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the cylinder in the usual manner.

At the point where the regular licker-in and the Nuclotex roller meet, the sheet of cotton (if it can be called a sheet at this stage) is divided into two portions. The heavier or most loosely held portion (which is more likely to contain impurities) is subjected to another cleaning action and is passed over another mote knife. The lighter or more firmly held cotton is taken directly to the cylinder.

The amount of waste extracted at the front of the card by the Nuclotex system of carding may be varied by the adjustment of the Nuclotex roller. The nearer this roller is to the licker-in, the more waste is extracted. The objective of the system is to obtain much better quality yarn without extra cost. A double carded quality is attained at about half the cost of carding twice.

CONTRIBUTOR No. 8231

$$ Your Idea May Win $100 $$

This contest ends March 15, 1950.

ONE HUNDRED DOLLARS will be awarded for the most helpful short cut, kink, time-saving device, cost-cutting suggestion, or quality improvement idea submitted by March 15.

The contest is open to any reader of this magazine. Contributions eligible for the prize must not have appeared elsewhere.

All material will be paid for at regular space rates upon acceptance irrespective of the contest winner. Advise when submitting entry if participant's name may be used. Only one award will be made in each contest.

Participants are not restricted as to number of items submitted to compete in the contest. Each entry should be described in sufficient detail to make it easily understood, and where possible, glossy photographs or pencil sketches should be included. Finished drawings are not necessary.

All entries for this contest must be postmarked not later than midnight March 15, 1950. Address: Editor "Textile Industries," 806 Peachtree Street, N. E., Atlanta 5, Georgia.

Operation of Nine-Cylinder Slashers

EDITOR TEXTILE INDUSTRIES:

We are operating a nine-cylinder slasher. I have not had much experience on this slasher and would appreciate some experienced readers' opinions as to how we can get better results.

Some details of our difficulties are as follows: The slasher has two squeeze rolls. The first roll is covered with three yards of a good strong cotton cloth and three yards of woolen cloth. This roll weighs 514 pounds. The second roll is covered with rubber and weighs 628 pounds. Too much size is left on the warp when it emerges from these rolls.

We use the same size formula on similar warps run on a two-cylinder slasher equipped with rolls weighing 400 and 300 pounds respectively. Warps run on the two-cylinder slasher have the proper amount of size left on the yarn after it emerges from the squeeze rolls.

The yarn (run on the nine-cylinder slasher) leaves the second squeeze roll with too much size, and when it passes over the first cylinder the yarn sticks and becomes baked. When the slasher is stopped for two or three minutes, the yarn is scorched and gives trouble when it reaches the comb.

We have covered the first, second, and third cylinders with cloth, but the yarn continues to have a coating of baked size on it. The cloth covering also accumulates a deposit of baked size.

We size 30/1 cotton warps with 3000 ends. What temperatures should be most suitable for the nine cylinders, and if the warp were spun rayon, what temperature should be maintained on the cylinders?

CONTRIBUTOR No. 8209
(South America)

THE WINNER

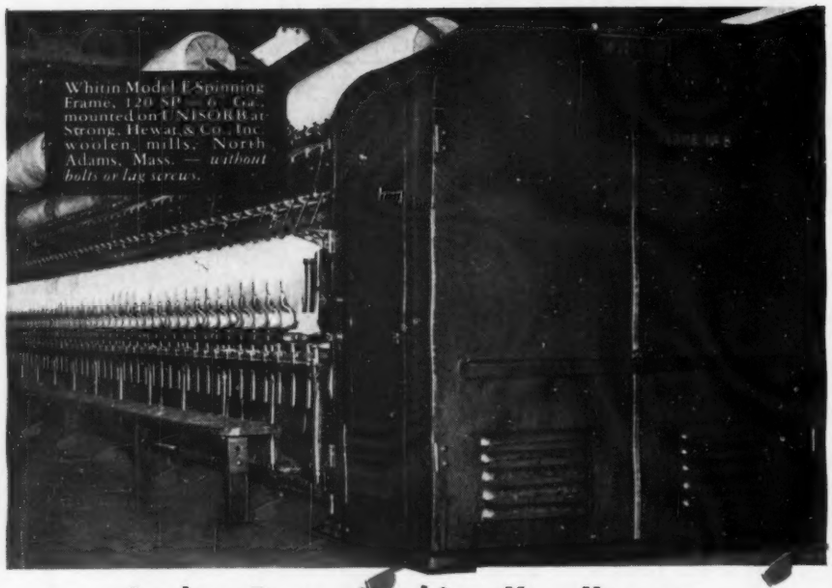
Winner of the kink contest which ended November 15, 1949, was **J. R. Stewart** of Hamilton, Ontario, Canada. Mr. Stewart's entry described a system for getting novelty slub effects on a printing machine. It will appear in an early issue.

Editor's Note: In order to be of immediate service to the reader, this question was answered prior to publication. The solicited information is published here along with the question. Other opinions are invited.

EDITOR TEXTILE INDUSTRIES:

We have experienced similar trouble in regard to coating of baked size on yarn and on first slasher cylinder. We were able to eliminate this trouble by several adjustments and corrections.

First, we removed the rubber roll and replaced it with the same type of roll and covering used on the other squeeze roll. Our first squeeze roll is covered with five


Whitin Model E Spinning Frame, 120 SP — 6 Gr., mounted on UNISORB at Strong, Hewat & Co., Inc. woolen mills, North Adams, Mass. — without bolts or lag screws.

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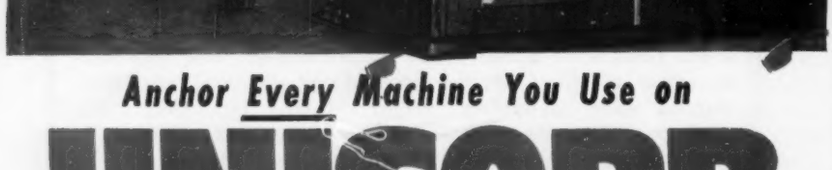

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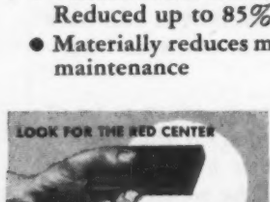

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HOW OTHER MEN MANAGE

yards of cotton cloth and five yards of slasher wool cloth.

Second, we found that having the tension too tight on yarn from the last squeeze roll to the first slasher cylinder would prevent the squeeze roll from making a firm contact on the bottom stainless steel roll. This tension may be corrected by proper regulation of the drive being used.

Third, we found that too high a speed on slasher can caused coating on the can. The yarn did not spend the proper time on first can to assure drying. By slowing down the slasher to proper speed the yarn received a gradual drying which prevented the coating.

Fourth, we found that if we had too much condensation in the slasher can, caused by trap not working properly, it produced a hidden condition which lowered the steam pressure and temperature in the can. This condition, prevented drying the warp properly.

I note that CONTRIBUTOR No. 8209 refers to the yarn scorching when slasher is stopped. The scorching is not caused by the heated can scorching the yarn, but it is due to the coating of size becoming baked when it stands too long on the yarn. The baked size makes the yarn appear to be scorched.

Regarding the temperature used on rayon, we lowered the temperature on first can by 20%, and on second can 10%. The temperature on other cans remained the same as when used on straight cotton work.

CONTRIBUTOR No. 8223

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EDITOR TEXTILE INDUSTRIES:

I suggest that CONTRIBUTOR No. 8209 change his size formula to help eliminate the trouble with excessive size on the warp. Apparently he is running the rubber covered roll next to the cylinder. This roll should be in the box nearest the beam creel, and the other roll which is covered with fabric should be near the cylinders.

When running cotton, the temperature should be 240 to 248 de-

grees. If a mixture of viscose, wool, and cotton is used, he can employ the same temperatures as those run on cotton. If the mixture contains a large percentage of acetate, the cylinder temperature should be about 190 to 210 degrees.

CONTRIBUTOR No. 8214

Numbered Ducks

EDITOR TEXTILE INDUSTRIES:

We are planning to make some numbered ducks .We haven't made any of this before and should like to obtain some information from other mill men who have had experience on this type of work.

We should like to know the general practice for the draw in the reed and the harness. Also, what is the standard procedure for slashing the warp? Is the yarn dry slashed, or is it run through plain hot water to set the twist?

CONTRIBUTOR No. 8224

Following is one mill man's response to this question. Other opinions are invited.

EDITOR TEXTILE INDUSTRIES:

We note that CONTRIBUTOR No. 8224 is inquiring about weaving information in making numbered duck. He asks about the draw in the reed and the harness. Doubtless he will have some samples which he can analyze before he undertakes the weaving of these fabrics. He can probably determine what reeds to use, but he will find that the reed spread is not a great deal more than the width of the cloth for this type fabric. We are listing below some suggested reed spreads for numbers 6, 8, and 10 duck:

No. 6—	22":	reed spread 22⅞"
	36":	reed spread 37⅜"
No. 8—	22":	reed spread 22⅞"
	36":	reed spread 37¼"
No. 10—	22":	reed spread 22⅛"
	36":	reed spread 37½"

If twine harnesses are used the draw in the harness will be roughly one inch greater than the reed spread. Of course, if steel heddles are used, only enough heddles are

SECURING END LAPS on bolts of wool cloth with short strips of "SCOTCH" Textile Tape No. 916. Tape applies instantly and securely with just a touch of the finger.

Tabbing with tape stops torn end laps

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A card to us will bring you complete information—or a sales engineer, if you prefer. No obligation. Write Dept. TW-119.

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required to take care of the number of ends in the warp.

He speaks of slashing the warps. So far as we know most numbered ducks are made from plied yarns which will need no sizing; in fact most users of these fabrics specify that no sizing is to be used. The warps should therefore be made on a beamer, either a direct creel beamer, a section beamer, or chain beamer.

Twisting is usually dry; in fact we know of no duck mills using wet twisters except for an occasional experiment.

In the event that specifications call for single yarns, CONTRIBUTOR No. 8224 would have to slash the warps, and they would be handled like any other warps made with single yarns.

Most duck fabrics are made with a plain weave, and it is hard to imagine that weaving would be very difficult, but many problems may be encountered that do not exist in weaving lighter fabrics. For one thing, duck is frequently used in the grey state, without bleaching or other finishing, and there is no chance to cover up stains or other defects in weaving. Thick or thin places will cause rejects. Rough, gappy selvages are objectionable. The "face" of the cloth is often an important factor and to duplicate the appearance of a sample it is often necessary to do a lot of experimenting with setting the harnesses and the whip roll.

Particular attention must be given to blending the cotton to prevent streaks in the cloth. Once a satisfactory blend has been secured it is necessary to maintain this blend. It is impractical to run out each blend or mix before starting another, and different mixes will show up in the cloth as off-colored yarns which is very objectionable.

Breaking, or tensile strength, is often an important consideration in making duck; therefore the cotton will have to be of the proper fiber length and strength and the plied yarns have the correct twist to maintain the required tensile strength.

CONTRIBUTOR No. 8227

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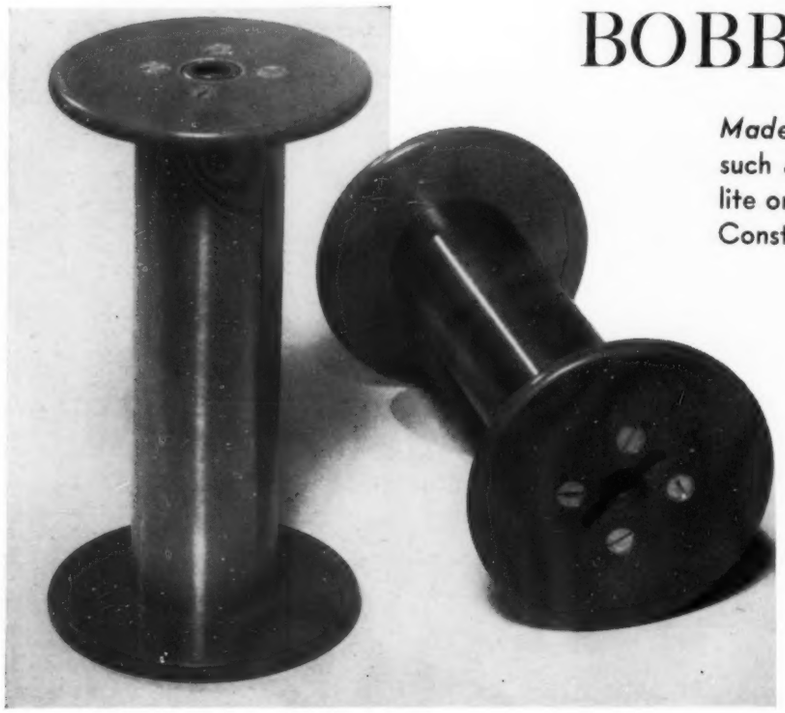

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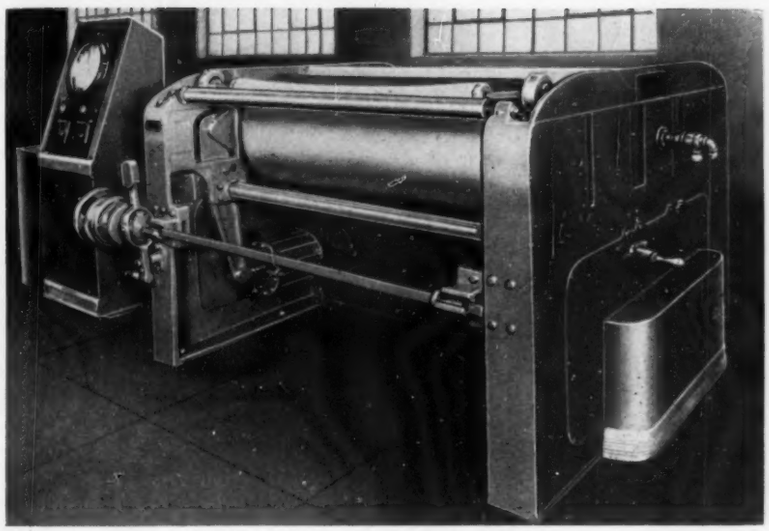
NEW EQUIPMENT
AND MATERIALS



Horizontal calender by Butterworth.

Horizontal Calender Features Reduction in Weight and Size

A horizontal calender that requires no more floor space than a vertical calender is a new development.

A unique feature claimed for this calender is that the balanced pressure design permits reduction in overall weight and size. The over-size bases and frames of conventional vertical calenders are not necessary with this new machine.

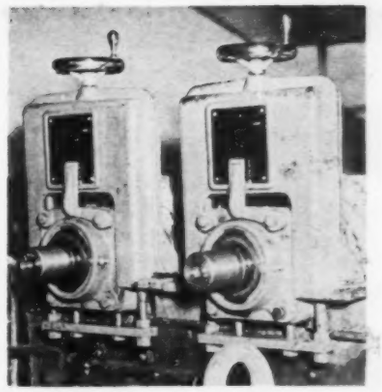
The new calender is streamlined, compact and sturdy. There are four balanced pneumatic air cylinders. Pressures up to 15 tons can be adjusted to each side of the roll to assure even pressures across the face.

Rolls are protected against damage by a simple valve mechanism for jumping seams. Rolls come apart exactly enough to allow seams to pass and then are brought together again smoothly and easily.

Standard equipment of the calender includes: (1) automatic threading device, (2) ball-bearing friction let-off and disc-winder, (3) pressure recording and drum control speed regulator, (4) steam heat to center roll. Gas heat arrangement and temperature control equipment are available if desired.

H. W. Butterworth and Sons Company, 2417 East York Street, Philadelphia 25, Pa.

For additional data, request item L-119, using business reply card on page 206.



Pressure regulator (Norcross).

Squeeze Roll Pressure Regulator Improves Slasher Efficiency

A simple mechanical pressure regulator has been developed which, when used in conjunction with conventional slasher squeeze rolls, provides adjustment so that the roll pressure may be varied as desired.

Known as the Norcross Pressure Regulator, the device consists of a spring loaded ball bearing unit mounted on both ends of each upper squeeze roll. The pressure is regulated by simply rotating a single handwheel until the desired setting is obtained. This regulator permits the squeeze roll to be easily lifted clear of the size roll when desired

SWEEPSTICK FEATURES UNIQUE CONSTRUCTION

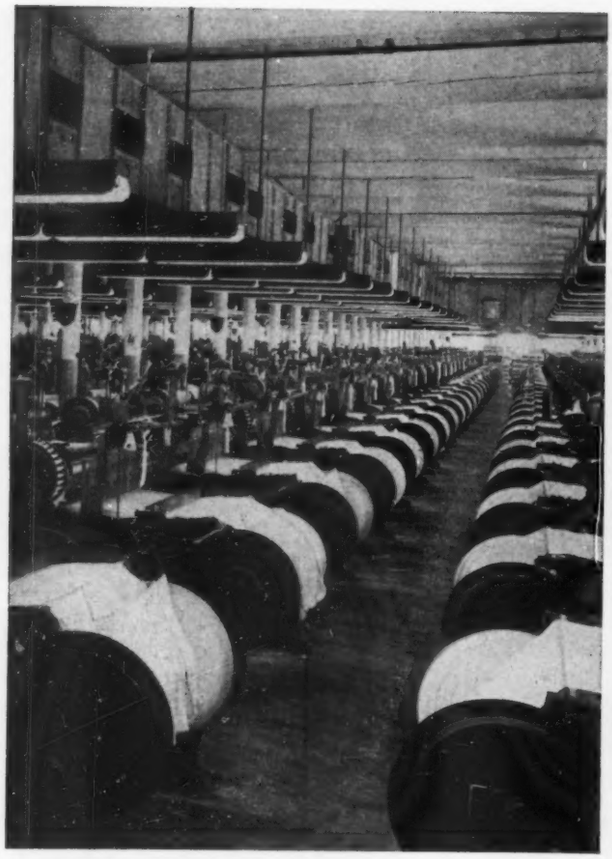
A new sweepstick is reported not only to improve the pick action on the loom, but also to outlast many times the ordinary stick. Designated the "Unibal" sweepstick, it is interchangeable with sweepsticks now in use.

The body member is made of resilient rubber-bonded fabric. An unusual feature is the self-aligning spherical bearing with a single ball which operates in a bronze ball race, with an action similar to an eyeball moving in its socket.

This bearing eliminates an oversize stud hole and compensates for any misalignment. Uneven pick action and resultant mending of kinks and loops in the cloth caused by elongated stud holes and increased power adjustments are eliminated, according to the manufacturer.

The Heim Co., Fairfield, Conn.

For additional data, request item L-129, using business reply card on page 206.



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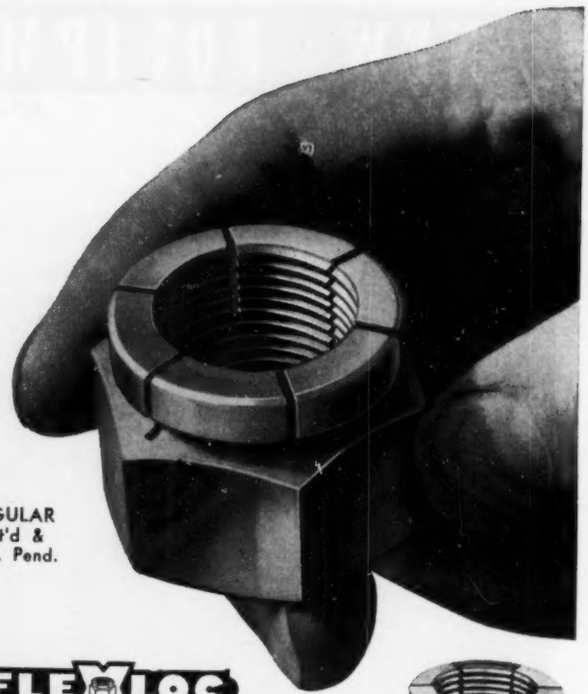

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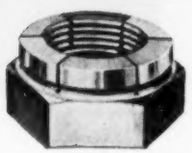

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by simply rotating the handwheel in the direction opposite to that which applies pressure.

Improved quality and higher operating speeds are reported obtainable with the new regulator because (1) the size content and penetration are controlled, (2) squeeze rolls are maintained in proper alignment, (3) squeeze roll "bouncing" is eliminated, (4) excess moisture is removed, (5) yarn sticking to cylinders is decreased.

The pressure regulator is compact and very easily mounted on any type of size box. Unit is of rugged construction with dust-proof and moisture resistant sealed type ball bearings. A large, easy-to-read scale indicates accurately the pressure applied.

Norcross Corporation, 247 Newtonville Ave., Newton, Mass.

For additional data, request item L-102, using business reply card on page 206.

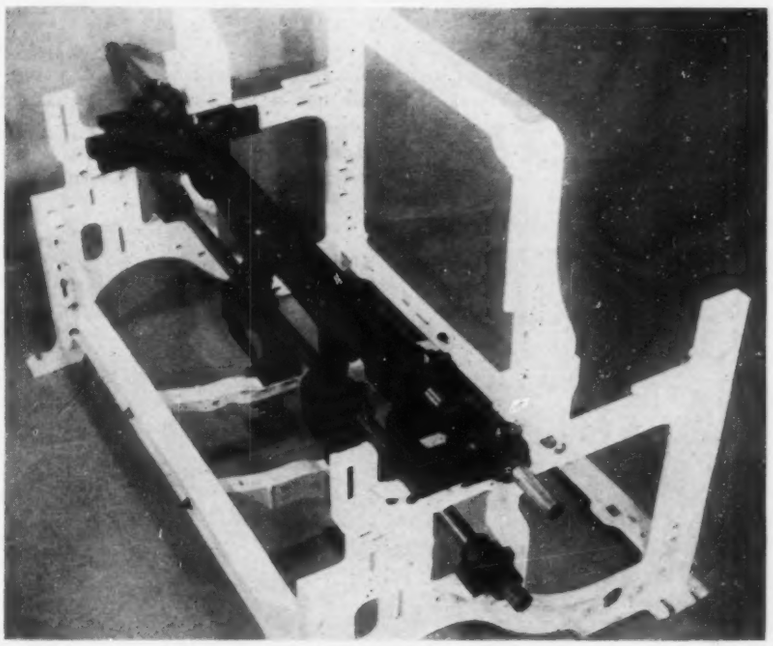
New Top Girt For Model E Looms

A new top girt for Model E looms is so designed that it gives the maximum in rigidity and also the maximum in flexibility for installation. It replaces conventional crank shaft bearings with a pair of end sections which have two bearings, one on each side of the crank shaft throw. These end sections are so designed to give greater additional support to the crank shaft and also divide the force and vibration from the crank shaft over a greater area of the loomside.

All bearings are aligned by the center member which has two large, flat surfaces and a rectangular key. This alignment guarantees accuracy in both planes, thereby making the girt simple to install and eliminating any need of shimming or hand fitting. Weight is carried on the top of the loomsides, which eliminates shearing action of the bolt through the loomsides. All bearings have bronze bushings and are grease lubricated and because of the method of alignment and machining, these units will maintain their alignment throughout their complete life, according to the manufacturer.

These girts will give a greatly increased bearing area and in the average application, with reasonably regular lubrication, will give many years of service before bronze bushings would have to be replaced, it is claimed.

The most important advantage claimed for this new girt is that the vibration is dampened to such an extent that a loom can be run at a considerably higher speed and still be smoother in operation than the same loom at a slower speed without the addition of the girt.



Top girt for Model E looms (Bahan).

Bahan Textile Machinery Co. Inc., P. O. Box 2325, Greenville, S. C.

For additional data, request item L-305, using business reply card on page 206.

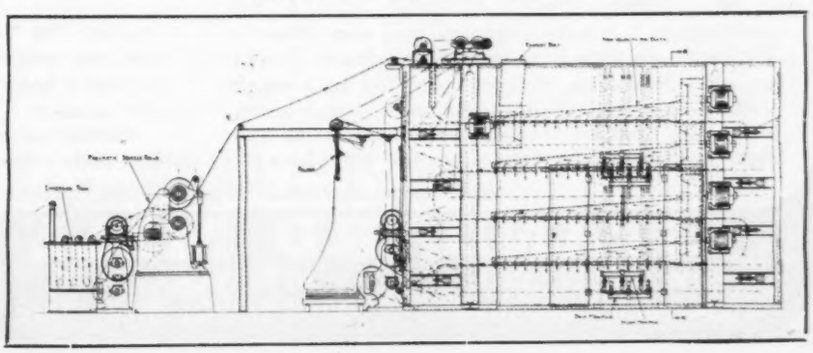
Continuous Shrinking Unit Features Minimum Tension

A new London shrinking unit increases profits through better production and improved quality at lower cost, according to the manufacturer. Handling of cloth with a minimum of tension is cited as an outstanding feature.

Operation of the unit is as follows: The goods are sewn together and then enter a stainless steel tank over a specially constructed steam box. The stainless steel tank is divided into one or more compartments containing whatever finishing agent is being used. This is in some cases merely cold water for shrinking and in other cases special synthetic finishes. The advantage claimed for having the tank divided into compartments is that several different types of finishes can be applied without completely exhausting the bath between changes and losing a great deal of expensive chemical.

After the goods leave the stainless steel tank, they are extracted with heavy-duty pneumatic squeeze rolls.

London shrinking unit (Hunter).



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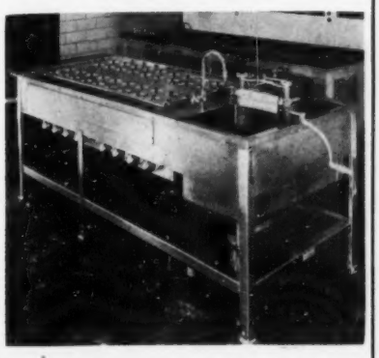

CABINET FOR TESTING DYES

This cabinet for testing dyes was custom-made of corrosion resisting metal. Note the eight switches which control the heat of the tests to which the dyes in the 32 cups are subjected.

There is a double compartment sink at the right. The overall dimensions of the cabinet are 7′ x 3′ x 35″. Design can be modified to suit the needs of the plant.

John Van Range Co., Cincinnati, Ohio.

For additional data, request item L-130, using business reply card on page 206.

This insures even extraction across the width of the piece and thoroughly impregnates all fibers with the finishing agent.

The goods then go continuously to the dryer where they are fed onto a special conveyor by means of a variable speed roll. This roll, which is operated faster than the speed of the conveyor, determines the amount of shrinkage. For most practical purposes, a definite controllable shrink of from 4% to 10% can be obtained, with the average worsted fabric. The goods are carried horizontally through the machine by means of this special conveyor with no tension on the warp or the filling.

Drying is accomplished by heated air, with the dryer using the patented Uniflow air system. The air is drawn through special extended surface heaters and blown by fans through nozzles across the entire width and length of the machine. The direction of this air as it blows through the cloth holds it in place on the conveyor, so that there is no danger of the cloth shifting from side to side.

The machine is built in 12′ sec-

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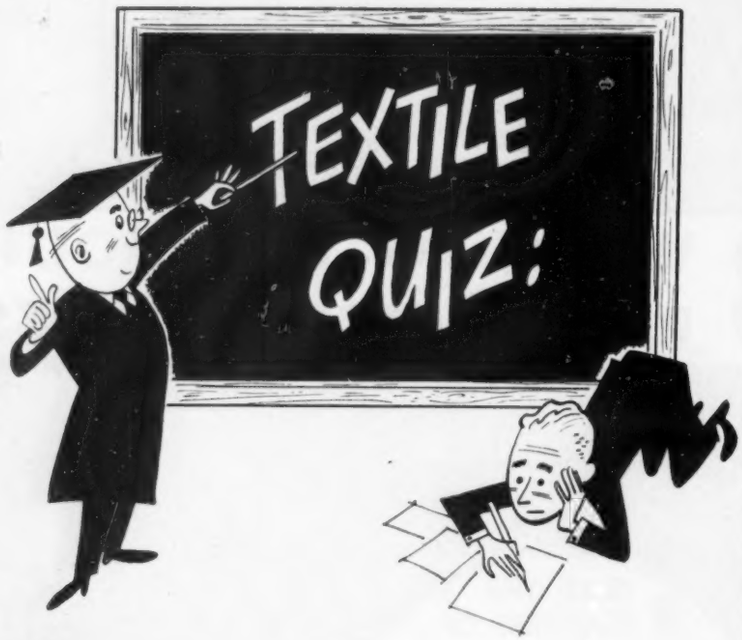

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tions depending on the production required. Each section handles up to 15 yards per minute with heat controlled at less than 200 F. The dryer may be made so that the cloth will deliver at either the back or at the entering end.

James Hunter Machine Co., North Adams, Mass.

For additional data, request item L-137, using business reply card on page 206.

Saco-Lowell System for Worsted Spinning

On page 149 of TEXTILE INDUSTRIES for October 1948 was published an article entitled "New Worsted Yarn System at Wright Spinning Co." This was a description of the first complete unit for the manufacture of worsted yarn on the Saco-Lowell system. It was recognized at that time that important changes in the system would probably be made before the processing machinery would be manufactured in quantity. The system has now been perfected to the point that the manufacturer is in position to discuss equipment with interested mills.

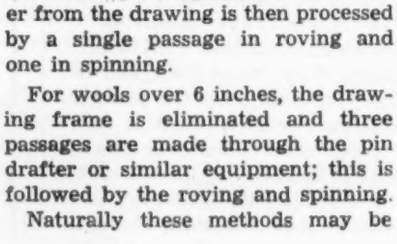
There are two distinct methods for processing—one for wools up to 6 inches in staple length and another for those in excess of 6 inches.

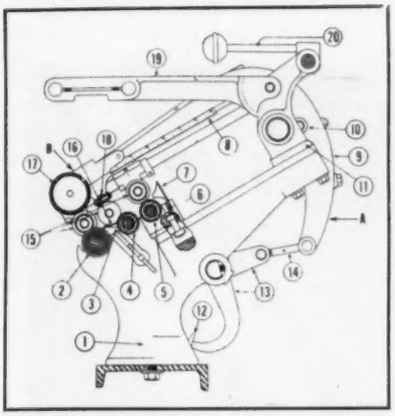
For wools up to 6 inches, a pin drafter or similar type of gill box is recommended, followed by two passages of 3 over 4 Model DS drawing (see accompanying sketch). The sliver from the drawing is then processed by a single passage in roving and one in spinning.

For wools over 6 inches, the drawing frame is eliminated and three passages are made through the pin drafter or similar equipment; this is followed by the roving and spinning.

Naturally these methods may be

Cross section of Model DS drawing for worsted yarn manufacture (Saco-Lowell).





Type 4 drafting system (Saco-Lowell). Key to numerals: 1, roll stand; 2, front steel bottom roll; 3, apron bar; 4, second bottom roll; 5, third bottom roll; 6, traverse bar; 7, roving guide; 8, setting scale; 9, arm supporting top roll assemblies and clearers; 10, pivot pin; 11, stand; 12, pressure system operating handle; 13, pressure system bell crank; 14, pressure system toggle joint; 15, top rolls; 16, apron; 17, front top roll clearer; 18, middle top roll clearer; 19, flyer support; 20, shipper handle.

altered, depending on local conditions.

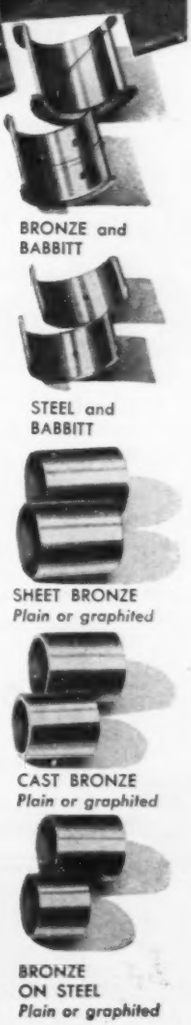
A unique feature of the system is system of ballers and creels, working with a wool top prepared by conventional methods. This system eliminates the use of the conventional can. The balling head is used at the pin drafters, or similar gill box, and the drawing frames. The ball is wound into a firm package under constant tension onto a core. At the second gilling operation, at the drawing frames and at the roving frames, the new Saco-Lowell ball creels, closely integrated with the receiving unit, deliver the back stock under an even tension and at a controlled rate of delivery which can be easily adjusted.

For the production of worsted roving and yarns, standard roving and spinning frames have been equipped with an entirely new drafting assembly designated Type 4 (see accompanying sketch for details). The unit is very flexible; with a simple adjustment the rolls can be set to operate efficiently within the entire range of commercial wools, making it possible for the worsted spinner to process efficiently the grade of wool which its count may require.

Saco-Lowell Shops, 60 Batterymarch St., Boston, Mass.

For additional data, request item L-139, using business reply card on page 206.

WHILE fully 90% of your sleeve bearing requirements are available from stock, Johnson Bronze can furnish all styles of sleeve bearings for special applications. Johnson engineers are working constantly with manufacturers on research and on designing bearings for specific uses. They are capable and ready to advise you on the right style and correct design for economical and efficient service on any equipment you produce. These bearing specialists have designed Johnson Bearings for other manufacturers at 20% to 50% of the cost of other types and have helped reduce installation and maintenance costs. If you have a bearing problem of any kind, consult the Johnson Bronze representative in your territory about this engineering service, or write direct.



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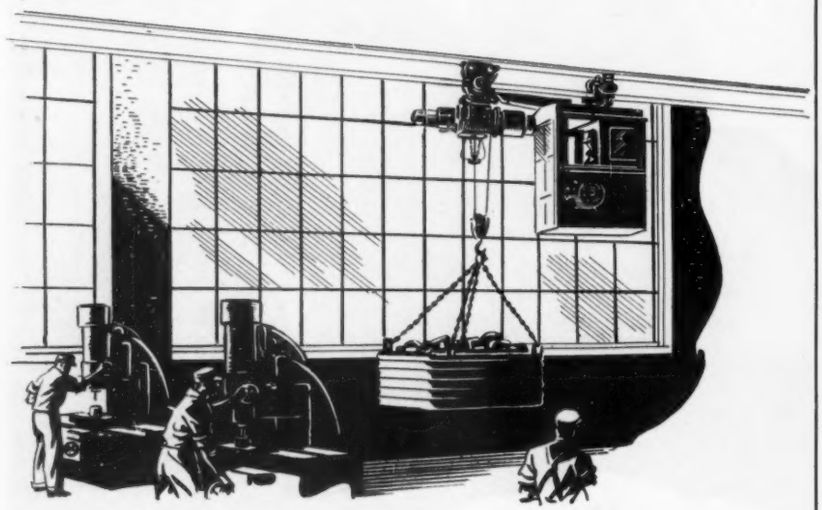

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Spindle tape with buttonholes for ventilation (Atkinson, Haserick).

Non-Slipping Spindle Tape

A new spindle tape, developed by Russell Manufacturing Co., Middletown, Conn., is woven with a series of buttonholes down the center. According to the manufacturer, this buttonhole construction permits air to pass freely through the tape in either direction—out as the tape approaches the whorl and in as it leaves it. The result has been the elimination of slippage, cool running tapes, and cooler spindle bearings.

Combed cotton warp yarn and filament nylon filling yarn is used in the construction of this new tape, producing a tape that has low lengthwise stretch. The nylon is woven into the fabric under tension and because of its elastic nature it contracts, burying itself within the tape; with the filling protected, it cannot fray, the manufacturer claims.

Toughness and flexibility are other characteristics cited for the tape.

Atkinson, Haserick & Co., 211 Congress St., Boston 6, Mass., distributors.

For additional data, request item L-135, using business reply card on page 206.

Bramwell Feeder Has Greater Productive Capacity

A new line of Bramwell continuous feeders is reported to offer four advantages:

1. Greater productive capacity by virtue of a more gently sloped spike apron and a larger sized hopper with

horizontal bottom apron.

2. Increased efficiency and flexibility, not only with respect to the wider range of staple lengths which can be handled, but because of a variable speed transmission unit in the spike apron drive.

3. Lower maintenance cost through the use of improved bearings and a screw conveyor which automatically ejects dirt and foreign matter from a housing under the beater grid.

4. More rugged construction.

Geo. S. Harwood & Son, 50 Lagrange St., Worcester 8, Mass.

For additional data, request item L-134, using business reply card on page 206.

Portable Vacuum Cleaner Has Many Uses

Slung over the shoulder to leave both hands free, a new portable vacuum cleaner has powerful suction which makes it especially suited for quick, thorough cleaning in close, confined places, in stock bins and storage shelves, under machinery and work benches, on overhead pipes, stairways and in all similar places where larger industrial vacuum cleaners are awkward and hard to handle.

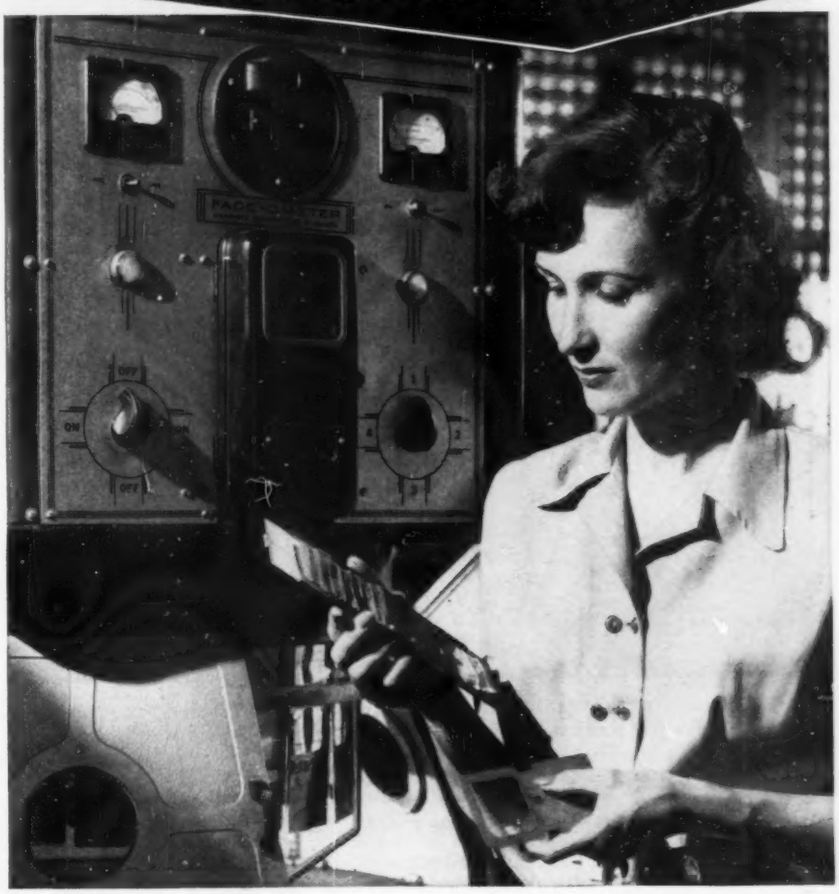
The cleaner is manufactured in four sizes with weights ranging from 7 lb to 16 lb. It operates from any convenient electric light outlet.

Special attachments make this

Portable vacuum cleaner (Breuer).

This ATLAS FADE-OMETER

. . . is guinea pig for more than 3,000,000 women



Women who use the Good Housekeeping Guaranty Seal as a guide in purchasing fabrics know that it is the distinctive mark of dependable quality. Before granting the Seal, the Good Housekeeping Textile Laboratory uses an Atlas Fade-Ometer to measure fading of colors caused by sunlight on each fabric.

In the Fade-Ometer, dyed fabrics — plastics — and a host of other products — are carefully evaluated for their resistance to the fading action of sunlight. As the source of light, the Fade-Ometer utilizes the Enclosed Violet Carbon Arc, recognized as an excellent reproduction of natural sunlight. Samples are rotated around this source, and light is highly concentrated so that the effects of sunlight are accelerated many times.

Relatively short exposure in the Fade-Ometer, therefore, is equal to months of outdoor sunlight and on the basis of test results the Textile Laboratory can safely predict whether or not the fabric will be satisfactory in actual use.

Operation of the Fade-Ometer is simple and fully automatic so that it may safely be left in continuous operation overnight. The degree of fading on each sample is measured in terms of Standard Fading Hours.

ATLAS ELECTRIC DEVICES COMPANY

361 West Superior St., Chicago 10, Illinois

LAUNDER-OMETERS — WEATHER-OMETERS — FADE-OMETERS

With labor costs as they are, the fast, *mechanized* TENNANT System can save you more *today* than ever—besides eliminating scrubbing. Here are 5 reasons why TENNANT "dry cleaned" floors are cleaner . . . brighter . . . safer—yet *cost you less:*

1 **Requires less manhours** for floor maintenance because floors can be cleaned *faster* . . . stay clean longer. Unlike rough, dirt-catching scrubbed floors, Tennant-cleaned floors are smooth, hard, dirt-resistant . . . clean up like magic! Saves time and expense.

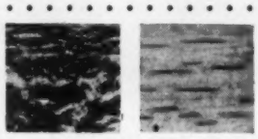
2 **Makes floors easy to clean.** Fast, low-cost "dry cleaning" with a Tennant Machine keeps floors bright, durable. Only daily care is dry mop sweeping.

3 **Cuts accident costs.** Helps keep floors DRY and safe. Aids morale.

4 **Makes floors last longer** by protecting against dampness, decay and wear.

5 **Helps prevent losses** of yarn and cloth from splinter-snags and dirt.

Write Today! Learn how mechanized "dry cleaning" can save you money. Ask for new bulletin "HOW TO GET BETTER RESULTS IN TEXTILE FLOOR MAINTENANCE."



SCRUBBED DRY-CLEANED

HERE'S WHAT HAPPENS when you stop scrubbing your floors and switch to economical Tennant "dry cleaning."

Microphoto at left shows typical surface of a scrubbed floor. Note how water has broken down top wood structure and caused rough, jagged, dirt-catching splinters. This makes floor hard to clean; and it breaks down rapidly under heavy traffic.

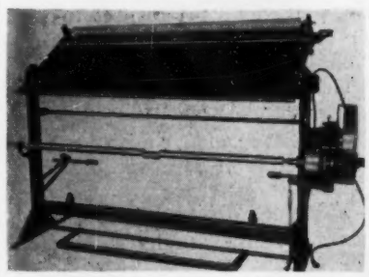
In contrast, microphoto of a Tennant "dry cleaned" floor (right) shows how the bright, smooth, protectively sealed floor resists dirt and wear . . . and is easily cleaned with minimum manpower.

G. H. TENNANT CO.
2585 North Second Street
Minneapolis 11, Minnesota

The way to finer floors
TENNANT
Floor Maintenance System

ESTABLISHED 1870

OFFICES IN PRINCIPAL CITIES



EXAMINING, WINDING AND MEASURING MACHINE

Shown here is a recently developed examining, winding, and measuring machine that is reported to cost less than comparable machines.

According to the manufacturer, it is dependable and easy to operate. Speed may be varied as desired. Ball bearing, foot-operated clutch leaves hands free for other activity. An accurate counter is provided that is driven directly from the winding drum.

Two models are available: one for weaving plants; one for dyers, printers and converters.

Liberty Machine Co., 124 East 18th St., Paterson 4, N. J.

For additional data, request item L-133, using business reply card on page 206.

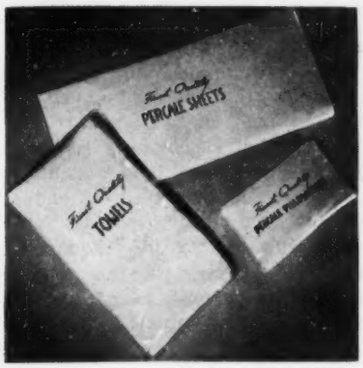
cleaner useful for many additional purposes. By simply removing the dust collecting bag and attaching a one gallon spray tank in its place, it becomes an insecticide sprayer. Paint spraying attachments convert it into a handy paint sprayer for small or medium indoor jobs.

Breuer Electric Mfg. Co., 5100 Ravenswood Avenue, Chicago 40, Ill.

For additional data, request item L-104, using business reply card on page 206.

Loom Fixing Book by British Author

The seventh in a series of "Textile Manufacturer" monographs is entitled *Practical Warp Gaiting* by W. Middlebrook of Brocklehurst-Whiston Amalgamated Ltd. The 107-page book, published by Emmott & Co., Ltd., 31 King St. West, Manchester 3, England, is designed to be helpful to those learning to be loom fixers.



TRANSPARENT WRAPPING FOR TEXTILES

"Tex-til-rap," a lamination of transparent, moisture-proof cellophane employing a specially formulated laminating medium has the qualities of clarity, strength, resistance to embrittling and heat sealability, according to the manufacturer.

Coincident with the development of this transparent wrapper, the Hayssen Manufacturing Company, Sheboygan, Wisconsin, has placed on the market a wrapping machine which automatically applies printed "Tex-til-rap" from a roll, accurately positioning the printed design on each package.

Textile products, including bed linens, towels, blankets and bolt goods, are appearing on the market in these "Tex-til-rap" enclosures.

Shellmar Products Corp., Mount Vernon, Ohio.

For additional data, request item L-101, using business reply card page 206.

New Intermediate For Emulsifiers

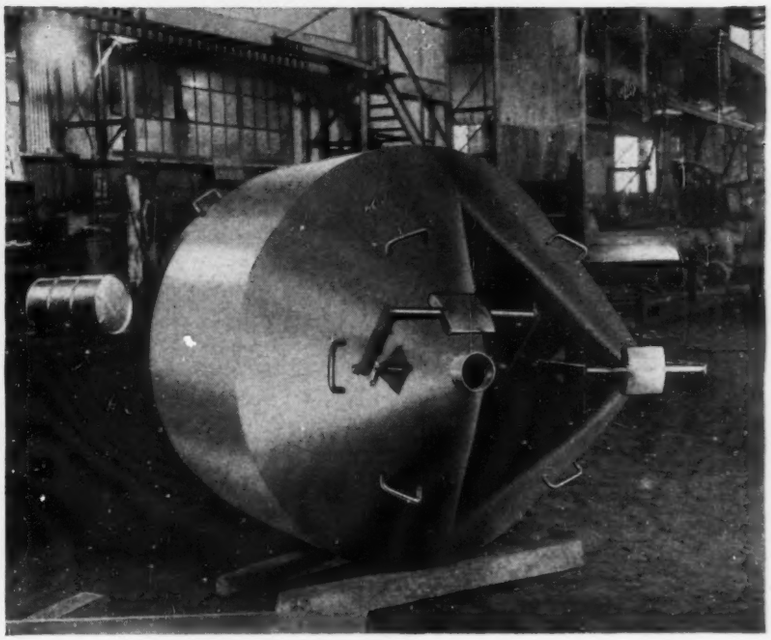
A new technical diethylaminoethanol is now in production. It is a low cost product developed especially for emulsion work.

This tertiary amine forms an azeotrope with water, improving water-spot resistance of wax films. It is suggested as an intermediate in making oil-in-water emulsions.

Sharples Chemicals, Inc., 123 South Broad St., Philadelphia 9, Pa.

For additional data, request item L-128, using business reply card on page 206.

MATERIAL SAVINGS WITH
STAINLESS STEEL



THE hopper illustrated above shows one of the many ways in which Stainless Steel can be adapted to your own plant. Fabricated on special order this hopper will result in appreciable savings in production. Stainless Steel is non-corrosive and materials remain unaffected by metallic contamination. Sound economy indicates its employment.

Truitt's engineering service in the fabrication of carbon and stainless steel is now available to the textile, chemical, pulp and other industries. Whether your need be tanks, vats or other equipment, remember . . . Truitt, one of the South's larger fabricators, will gladly figure your job, without obligation or cost to you. Send for free Booklet on our facilities.

DESIGNERS, ENGINEERS AND FABRICATORS
OF STEEL AND METAL PRODUCTS

TRUITT
MANUFACTURING COMPANY
• GREENSBORO, NORTH CAROLINA •

Fig. 2140
GLOBE
125 lb. S.P.
200 lb. W.O.G.

125 lb. S. P. BRONZE GLOBE, ANGLE and CHECK VALVES
Built to LUNKENHEIMER
QUALITY STANDARDS

Want a lower pressure valve to give the same dependable, low-cost service you get in higher pressure LUNKENHEIMER Valves?

Here it is — New Fig. 2140 Globe; Fig. 2141 Angle; Fig. 2142 Lift Check; Fig. 2144 Swing Check. These valves feature Lunkenheimer's traditionally fine design and sturdy construction, plus exclusive silicon bronze alloy stems which eliminate stem thread failure due to wear.

Whatever your requirements for lower pressure service, you'll find these new valves unequalled for dependability and true economy.

Your LUNKENHEIMER DISTRIBUTOR is stocking these new 125 lb. S.P. Bronze Valves. Call upon him for your original equipment, replacement and repair valve requirements. Ask him for Circular No. 582 or write direct.

ESTABLISHED 1862
THE LUNKENHEIMER CO.
"QUALITY"
CINCINNATI 14, OHIO, U. S. A.
NEW YORK 13 CHICAGO 6
BOSTON 10 PHILADELPHIA 34
EXPORT DEPT 318-322 HUDSON ST NEW YORK 13, N Y

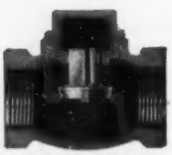


Fig. 2142 LIFT CHECK
125 lb. S.P. 200 lb. W.O.G.

Nowhere in the line is dependability more important than in Check Valves. These Checks function quickly and positively, seat accurately and tightly.

Fig. 2144 SWING CHECK
125 lb. S.P. 200 lb. W.O.G.

Portable Swatch Cutter

A light weight, portable 6½" swatch cutting machine with new type link motion has been developed. This machine has anti-friction bearings throughout, providing ease and speed in operation. It is possible to cut a large number of layers of material at one stroke; sample books or swatches 6½" x 6½" square or smaller can be cut.

One of the advantages of this new machine is its complete portability. It can be placed on any desk or table and requires no bolting down or other fastening. When not in use, it can be stored in any convenient place.

Chandler Machine Company, 50 West Street, Ayer, Mass.

For additional data, request item L-136, using business reply card on page 206.

Fluorescent Lamp Changer Eliminates Use of Ladder

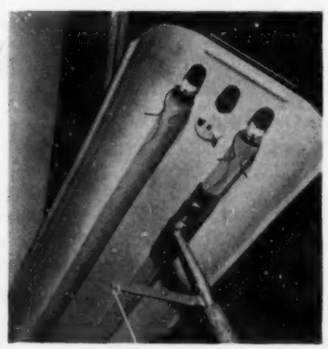
A device consisting of a pair of gripping jaws mounted on the end of a five-foot pole makes possible the changing of fluorescent lamps from the floor without the use of a ladder.

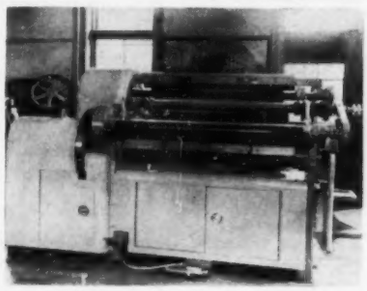
The jaws are made to fit the lamp and are controlled by a cord leading to the bottom of the pole. A pull on the cord opens the jaws; when the cord is released, a spring automatically turns the lamp 90 degrees; then the lamp can be lowered.

Installation of new lamps with the device is just as simple. The pins of the lamp are lined up with the slots in the sockets from where the operator stands on the floor. The lamp is inserted in the sockets; the cord is pulled until the lamp is turned through 90 degrees, and the jaws open for removal of the tool.

Reduction of accidents, and savings

Fluorescent lamp changer (Newman).





MACHINE CONVERTS SHORT LENGTH ROLLS

Shown here is the new Camachine, Type 40-1DF, which was designed for converting short length rolls in the paper, textile and rubber industries.

Capable of speeds up to 600 fpm, the machine is equipped with an electrically operated riding roll lift. Completely enclosed for safety, the space beneath the machine is utilized as a storage cabinet for tools and equipment.

Cameron Machine Co., 61 Poplar St., Brooklyn 2, N. Y.

For additional data, request item L-122, using business reply card on page 206.

of time and manpower are other advantages claimed.

Newman Mfg. Co., P. O. Box 5905, Kansas City 2, Mo.

For additional data, request item L-111, using business reply card on page 206.

Nylon Heat Setting Machine Utilizes Heated Air

A new nylon heat setting machine is reported to employ an entirely different heat setting system. Hot air thermostatically controlled and directed through the goods almost instantaneously brings every fiber up to the setting temperature as it enters the machine. This immediately relieves all strains in the woven nylon, it is claimed.

Only one temperature is employed inside. Since no part of the machine or the cloth is ever above the setting temperature of nylon, overheating is impossible.

Van Vlaanderen Machine Co., 370 Straight St., Paterson, N. J.

For additional data, request item L-113, using business reply card on page 206.

Roller and Belt Conveyors handling battery filler tubs to and from 4th floor spinning room. System also serves 1st and 2nd floor weave rooms.

Conveyors ..best means to...

straight-line-flow production

Straight-line-flow, via conveyors, is as profitable in the textile mill as in hundreds of other industries.

Logan installations in many mills to date are providing higher speed production, eliminating waste motion, saving floor space, and reducing maintenance costs.

Logan textile mill systems include the use of roller conveyors, belts, vertical lifts, and other types.

This conveyorized handling makes worthwhile production economies in supplying material to looms, in the movement of containers of empty and filled bobbins, in the handling of cloth between operations, and to warehousing or shipping.

Write today for information or for the nearest Logan engineer to contact you.

Logan Conveyors

LOGAN CO., 206 CABEL ST., LOUISVILLE, KY.

WHAT THE TEXTILE MILLS ARE DOING

Coast Mfg. & Supply Co., Livermore, Calif., glass fiber fabrics, has work in progress on a one-story plant unit for the production of glass fiber fabric, and will include divisions for dyeing and finishing.

Colt Dye Works, Inc., has been organized to operate a dye and finish mill in Danbury, Conn. Albert Ravallese is president.

Texas Woolen Co., Norwich, Conn., has been chartered with a paid in capital of $50,000 to operate a woolen and worsted mill. Benjamin Furman is president.

Dublin (Ga.) Woolen Mills, Inc., has let general contract for a one-story addition, comprising two individual units. The structures will be used for expansion in the dyeing and finishing departments.

Grand Rapids (Mich.) Fibre Cord Co. has been chartered with a capital of $50,000. Wade E. Sackner is the principal incorporator.

Chatham Mfg. Co., woolen goods, blankets, etc., is considering the transfer of the blanket division at the branch mill in Waynesboro, Va., to the mill at Elkin, N. C. Expansion will be carried out at Elkin to accommodate additional machinery and operations.

Burlington Mills Corp., Greensboro, N. C., has arranged to sell its two branch mills in Cuba to Cuban interests, and operations will be continued as heretofore. The properties include Textilera Mayabque, a weaving mill at Guines; and Textilera La Victoria, a dyeing and finishing mill at Marianao.

Naumkeag Steam Cotton Co., Salem, Mass., sheetings, tubings, twills, etc., has plans to construct a branch mill at Penrose, N. C., to be comprised of a number of one-story structures which will be a complete, integrated unit for spinning, weaving, carding, finishing, etc. A boiler house will also be built. The cost is reported to be about $2,500,000.

Dover Mill Co., Shelby, N. C., cotton and rayon fabrics, has plans for a one-story addition to the mill.

Recently organized with a capital of $10,000, the **Nylon Finishing & Separating Corp.** is planning the operation of a mill in Bangor, Pa., for the processing and finishing of nylon fabrics. B. J. Longstreet will head the concern.

Jaspar Mfg. Co., Philadelphia, Pa., has been chartered to operate a yarn mill.

Graichen Fabrics, Ltd., recently organized, has begun construction on a one-story mill and several auxiliary structures near San Juan, Puerto Rico, for the manufacture of woolen and worsted goods.

Russell Mfg. Co., Middletown, Conn., has established a plant at Lexington, S. C., for the production of

10% LOWER PRICES

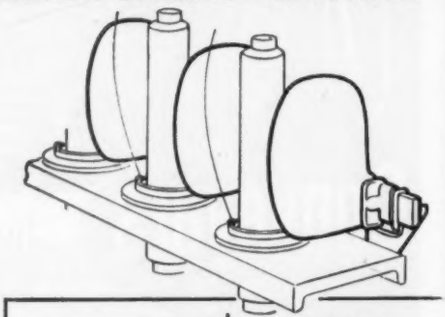
ON WHITEHEAD *Permalite* (MEADOWS LIGHT WEIGHT) ALUMINUM ALLOY SEPARATOR SHIELDS AND PARTS

Enlarged production facilities and careful buying of materials make these low prices possible. Whitehead Permalite Separator Shields are made from light, but strong-as-steel, aluminum alloy. They are designed to mount directly on the ring rail and can be turned back when doffing. They will prove satisfactory on your most troublesome frame.

Whitehead Permalite Separator Shields offer you all of these money-saving, time-saving advantages:

- No attention after installation
- Reduction of live weight—from as much as 300 lbs. in old slotted steel shield assemblies to as little as 35 lbs. per frame.
- Less vibration, wear of cams, worm gears and lifter-rod bearings
- Use of lighter travelers which reduce power costs, wear of rings and travelers
- Fewer ends down: some mills report 27% less
- Solid polished blades (not slotted) which cause less wear on yarn, collect less lint and fly, resulting in smoother yarn

Made in 20 sizes for new assemblies and old-style angle replacements.



TILT BACK TYPE SEPARATORS	COMPLETE ASSEMBLIES Per Spindle
Now 15c to 25c	Now 24c to 39c

Stainless Steel Available for Rayon Spinning

OVER 4,000,000 IN USE BY MORE THAN 350 AMERICAN MILLS

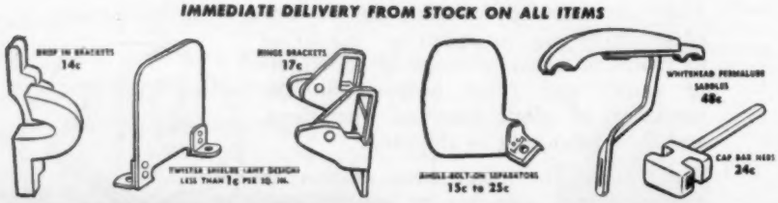
Now your mill can enjoy the advantages of these light-weight, corrosionless separators at prices comparable with old-style, slotted steel assemblies.

EASILY INSTALLED! Simply drill and tap ring rail. We supply aluminum alloy shields and bar drilled to your gauge and ring count, together with proper support hangers, necessary screws and washers.

EACH JOB ENGINEERED! When ordering specify rail width, thickness of back flange, gauge, count of rings in each rail on one side only as 24-22-22-22-24.

ALSO MANUFACTURERS OF SPECIAL ALUMINUM DIE CASTINGS AND STAMPINGS TO YOUR DESIGN AT LOW PRICES

IMMEDIATE DELIVERY FROM STOCK ON ALL ITEMS



PATENTED AND MANUFACTURED BY
WHITEHEAD ENGINEERING CO.
BOX 248 FAIRBURN GEORGIA

EXCLUSIVE DISTRIBUTORS
Meadows Manufacturing Co.
BOX 4354 • ATLANTA GEORGIA

*SEE YOUR MEADOWS MAN
Alabama, Georgia, Mississippi
R. L. Holloway, Box 4354, Atlanta, Ga.
South Carolina
J. P. Coleman, Box 1351, Greenville, S. C.
North Carolina
Walter Coleman, Box 722, Salisbury, N. C.
Tennessee
Ed F. Brown, 417 Dale Ave., Knoxville, Tenn.
Northern Representative
Matthews Equipment Co., 93A Broadway, Providence, R. I.

nylon and cotton narrow elastic fabrics. It is to be housed in a large building formerly occupied by the U. S. Air Forces.

J. R. Abney, Sr., vice-president of Anderson (S. C.) Cotton Mill, has purchased the physical properties of **Saratoga-Victory Mills** in Albertville and Guntersville, Ala., from M. Lowenstein & Sons, Inc. The cost is said to be more than $750,000. Mr. Abney has assumed the position of president of the two plants which manufacture fine print cloth and specialties, and which will be known as **Julia Cade Mills** hereafter.

Avondale Mills has offered for sale its 2,000 homes which constitute the mill villages in Birmingham, Sylacauga, Pell City, Alexander City, Stevenson, Sycamore and Lafayette, Ala.

Frissell Fabrics, Inc., has begun operations in a building formerly occupied by Altahahaw Hosiery Mills, seven miles north of Burlington, N. C., and represents an investment of more than $300,000. The new concern will manufacture material for draperies, etc. Fred Frissell, Jr., is president, treasurer and general manager.

Burlington Mills Corp., Greensboro, N. C., has announced plans to spend approximately $40,000,000 during the coming three years for modernization and expansion of its plants and equipment. The first probable project, it is reported, will be the Ossipee (N. C.) Weaving Plant, where ground has been broken for an addition to house more looms.

The houses in the mill village of **Mandeville Mills, Inc.,** Carrollton, Ga., have been offered for sale to the employees of the mill.

Textron Incorporated has plans to install 132 additional looms in the Hartwell, Ga., plant.

Erwin Cotton Mills Co., Durham, N. C., has asked for bids on the construction of a one story and basement weave building and extension to the mill building No. 2 at its plant No. 8 in Stonewall, Miss.

Springs Cotton Mills have contracted with H & B American Machine Co., Pawtucket, R. I., for longdraft spinning changeovers to equip the spinning frames at the Gayle plant in Chester, S. C.

Delta Finishing Co., Greenville, S. C., has been granted a charter to manufacture and finish fabrics and fibers, with an authorized capital of

MORE readily soluble and more stable, because of its higher SO_3 content, than conventional soaps and sulfonated tallows, Stearo Glyceryl Sulfate N is also much more versatile. It will provide striking improvements in softening and plasticizing, and at the same time can be used for giving body and/or thickness over a wide range of effects. Its penetrating qualities are markedly superior.

STEARO GLYCERYL SULFATE N

shows much greater resistance to hard water and electrolytes than ordinary softeners, and exhibits exceptional resistance to rancidity and yellowing. It can be used with many other finishes for special hands of extensive variety.

Much more economical to use than ordinary sulfonated tallows, Stearo Glyceryl Sulfate N involves no changes in processes or equipment.

Onyx Technical Data Sheet 12-T carries the complete story of Stearo Glyceryl Sulfate N and its many textile applications. It will pay you to study this data.

ONYX OIL & CHEMICAL COMPANY
JERSEY CITY 2, N. J.
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For Export: Onyx International, Jersey City 2, N. J.

onyx CHEMICALS FOR TEXTILE PROCESSING

10 no par shares. C. F. Haynsworth, Jr., is president.

Burlington Mills Corporation's research and testing laboratory in Greensboro, N. C., for checking and maintaining quality control, was opened to visiting newspaper men recently.

National Automotive Fibers, Inc., Detroit, Mich., has merged with **California Cotton Mills Co.**, Oakland, Calif., and the consolidated company will go under the first name mentioned. Production at the Oakland, Salem, Ore., and Uniontown, Ala., mills of the California Cotton Mills will be continued as heretofore.

A portion of the mill of **Downs Carpet Co.**, Philadelphia, Pa., was recently damaged by fire, and it is planned that the damage be replaced.

Concord Weaving Mills, Inc., Pawtucket, R. I., has been chartered with a capital of 100 shares of stock, no par value, to operate a mill for the manufacture of rayon fabrics. Maxwell W. Waldman, Providence, is the principal incorporator.

M. & D. Weaving Co., Inc., has been incorporated with a capital of 100 shares of stock, no par value, to operate a mill in the vicinity of Pawtucket, R. I., for the manufacture of rayon fabrics. Nicholas Martin, Pawtucket, is the principal incorporator.

Newberry (S.C.) Textile Mills, Inc., is now operating about 30 looms for the production of print cloths. Additional looms will be installed for this line in the near future.

Recently organized, **Walhalla (S.C.) Mills, Inc.**, is reported to be planning the early establishment of a mill; the character of the production has not been announced. Arthur Brown, Walhalla, heads the new organization.

Elk Cotton Mills, Inc., Fayetteville, Tenn., chain and ball warps, etc., has plans maturing for the construction of a one-story addition to the mill.

Burton-Dixie Corp., Chicago, Ill., mattresses, bedding, upholstery pads, etc., has concluded arrangements for the purchase of the **Dallas (Tex.) Cotton Mill Co.**, plant.

The wool scouring plant of **Texas A. & M. College** will be operated in McGregor, Tex., henceforth.

Baron Woolen Mills, Brigham City, Utah, blankets, has plans to rebuild the portion of the mill recently destroyed by fire at an early date. The loss was reported as over $200,000.

Abe Miller, former head of Abe Miller Fabrics, and Gus Gold, former head of Goldspun Fabrics Corp., have formed **Goldmill Fabrics Corp.** in New York, N. Y., a rayon converting firm.

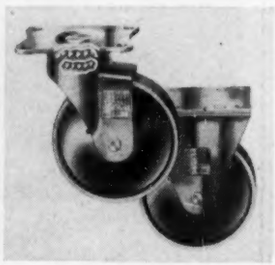
William Whitman Co., Inc., has moved the offices of the Arlington and Monomac divisions from Chauncy St. to 222 Summer St., a new location in Boston, Mass.

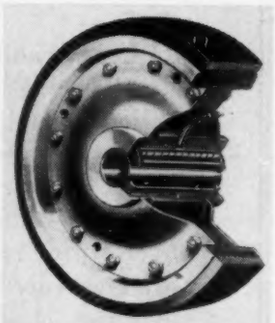
Colonial Mills, Inc., Clarksville (Va.) Finishing Division, has let general contract for an addition to the mill, to include certain improvements in the present structure.

Fibers Co., Inc., a division of Atlas Fibers Co., Inc., Glendale, N. Y., is occupying the site of William Knowlton & Sons Co. in Beacon, N. Y. Additional space for bale storage has been added.

SAVE EQUIPMENT
SAVE FLOORS
SAVE MONEY
and TIME

Darnell Casters
& E-Z ROLL WHEELS





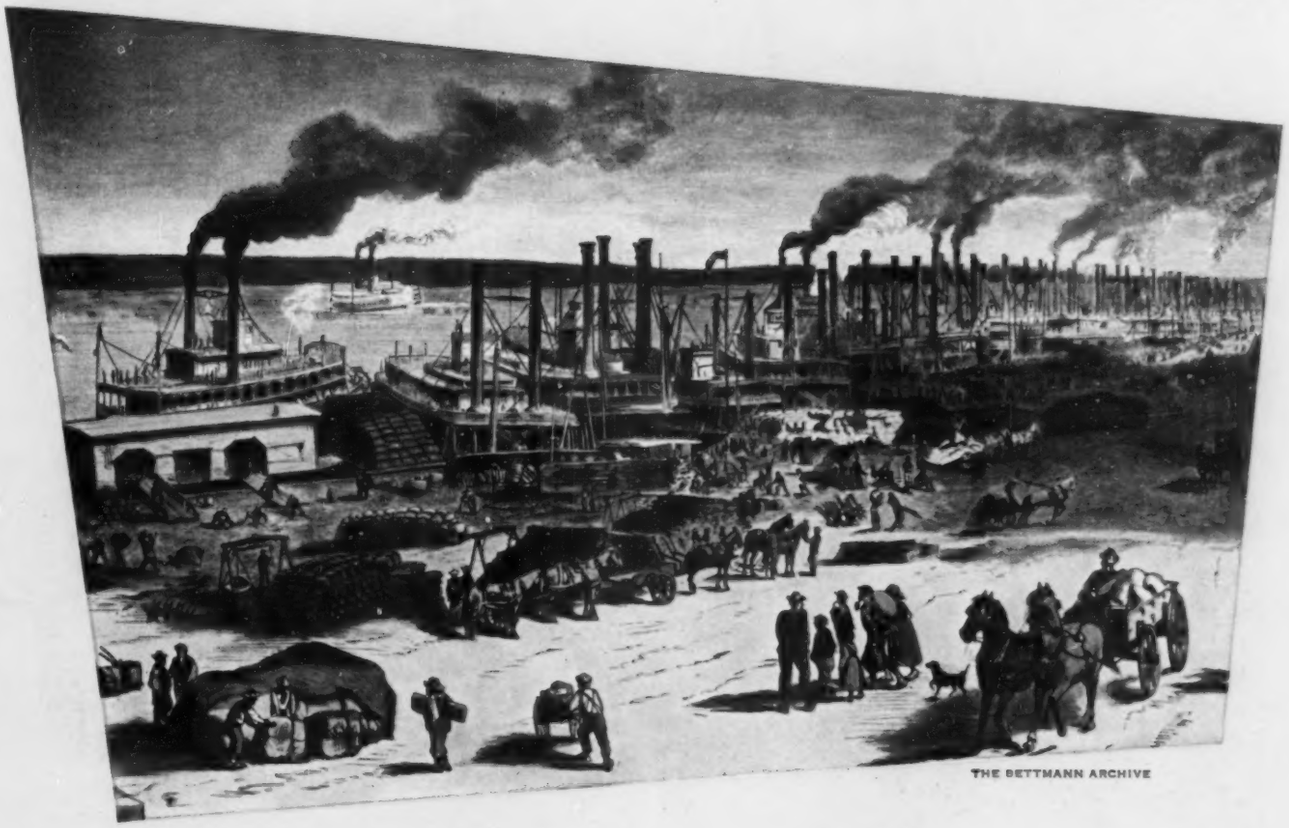
Free DARNELL MANUAL

- Wearing parts carbonized and hardened
- *Patented* Double Ball-Bearing *Swivel*
- Maximum floor protection means savings
- Will increase efficiency of employees
- Made in any size for any type of use

DARNELL CORP. LTD. | 60 Walker St., New York 13, N. Y.
Long Beach 4, Calif. | 36 N. Clinton, Chicago 6, Ill.

River steamers swell the volume of trade with expanding markets in the south and west.

THE ISELIN DIARY, 1871



THE BETTMANN ARCHIVE

To market, to market...

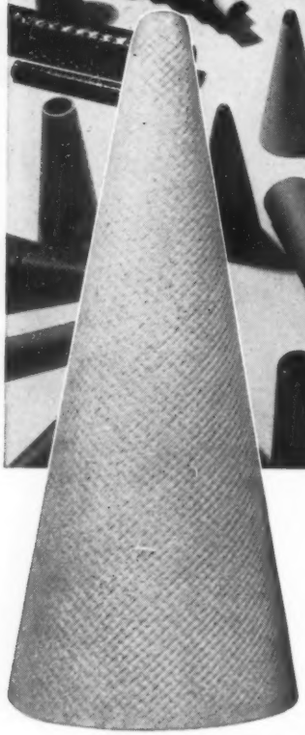
Spurred by steamboat, team and rail, the growing bustle and volume of trade in 1871 added countless financial, credit and collection details. To help manufacturers with these problems, Iselin brought a service already 63 years old . . . Today, nationwide marketing burdens you with even more routine. Iselin's service speeds turnover of your working capital, ends credit losses, frees you of unproductive details . . . Our methods are proved by time and the success of our clients. Let them help you to market successfully. Send for booklet on our Factoring service to industry.

William Iselin & Co., Inc.

357 Fourth Avenue, New York 10, N.Y.

FOUNDED IN 1808

SONOCO NUTAPER 9° 36′ CONE



VELVET SURFACE

VELVET SURFACE
Scored, Dyed Tip and Base

LOW MARK SURFACE

HIGH MARK SURFACE
Scored

FOR COTTON HOSIERY YARN

To meet the varied requirements of a firm 6″ traverse package for cotton hosiery yarns, the SONOCO

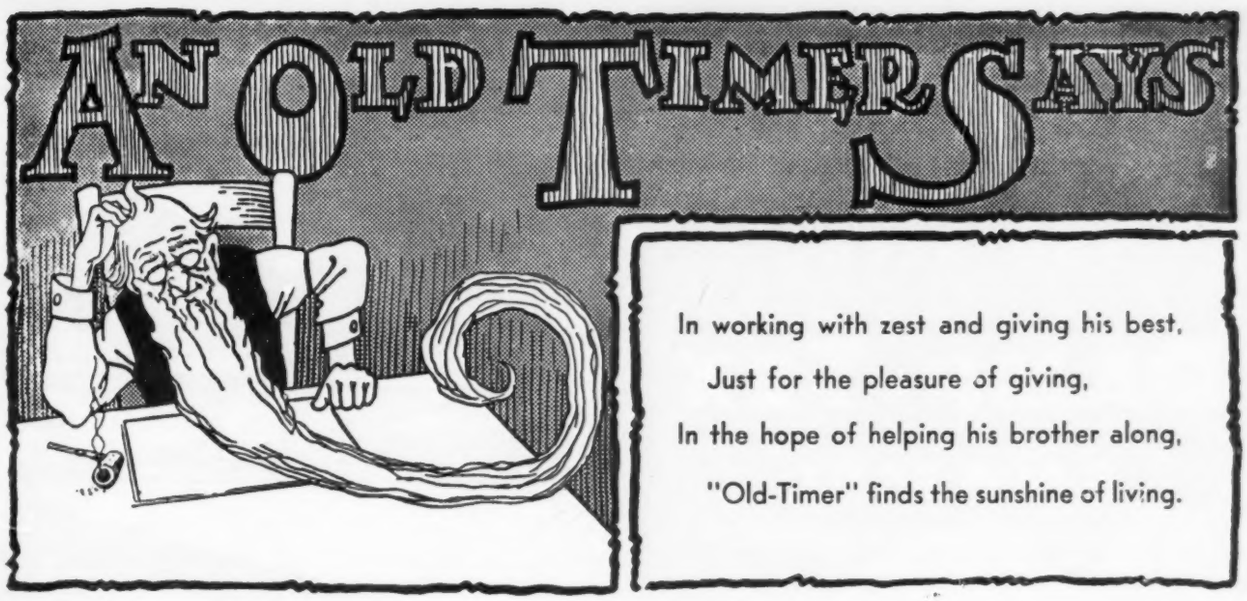
NUTAPER

Cone with its 9° 36′ taper is made available in a range of surfaces and colors that can be scored, dyed, printed and lacquer tipped to meet all yarn specifications as well as identification needs.

SONOCO PRODUCTS COMPANY

BRANTFORD ONT. | HARTSVILLE S. C. | MYSTIC CONN.

DEPENDABLE SOURCE OF SUPPLY


AN OLD TIMER SAYS
In working with zest and giving his best,
Just for the pleasure of giving,
In the hope of helping his brother along,
"Old-Timer" finds the sunshine of living.

Random Thoughts

Simple Reasoning

EVERY normal person, male or female, has his portion of pride, dignity, and most important of all, ambition.

If these are ignored by management, all the good wages—high wages or even abnormally high wages—you pay will not acquire loyalty. With rates of pay practically fixed by decree, textile mill executives must wake up to the fact that present wages, matters not how high, do not carry or induce the all important item we term "incentive." Therefore, we must rack our brains for ways and means to obtain loyalty—a desire to excel in production and eliminate turn-over among operatives.

Operating executives, especially overseers, realize how costly it is to lose an operative you have spent probably three years training to run his set of machines at your mill.

To have an advantage over other mills (yes, there will be a shortage of operatives again some day) you must have advantages to offer operatives that the other mill does not have. We do not mean things that you could give operatives. OLD-TIMER does not advocate the "giving" a lot of mills do. But he does mean *opportunities* for operatives which other mills do not have. After a prolonged study from every angle, we are firmly convinced that our plan of "incentive" preferred stock for employees will undoubtedly give you results far exceeding your imagination. It is absolutely fool-proof.

"Mr. Mill President, What Can You Lose?" Did you read that OLD-TIMER article [June 1947]? Did you study it? Did you discuss it with your attorneys? Did you discuss it with your superintendent and overseers? Well, now please go back and read that article from the beginning. The first paragraph states a fundamental fact of human nature. If you should decide to adopt such a plan, OLD-TIMER will be very much pleased to give you an outline of certain ideas as to how to present the plan to your employees.

Do You Profit By Other Fellows' Ideas?

THE TOP executive realizes that many methods or practical ideas may be borrowed and adapted from one line of business to another. Therefore, he studies the methods of other top executives in lines of work entirely foreign to textiles.

You probably could get an idea that would apply to your work from reading how Frederick W. Taylor acted on his idea which developed into modern scientific management; how John H. Patterson taught his salesmen to sell cash registers; how Abe Lincoln selected the members of his cabinet; how the late Henry Ford avoided the weakness of trying to do too many things at once.

We have known and still know many overseers, superintendents, and managers who could profit by Mr. Ford's idea.

TO THE man with an open mind there will always be limitless opportunities. You fellows who cannot see how productivity per operative can be further increased or cost per pound decreased will do well to ponder the above admonition.

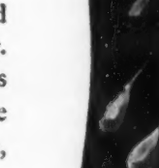
THE WETTER YOUR PLANT EQUIPMENT AND WALLS THE MORE YOU NEED

DAMP-TEX ENAMEL

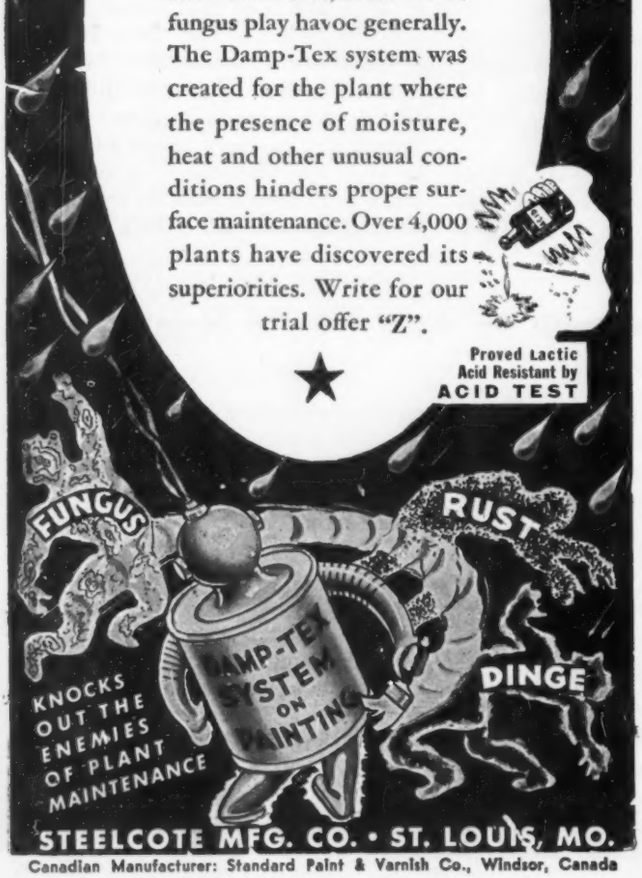
Proved Fungus Resistant by FUNGUS TEST

PRESERVES AND BEAUTIFIES DINGY WET WALLS AND EQUIPMENT

Dark, dingy walls cut down efficiency Rusty, neglected equipment increases depreciation costs. Rot, bacteria and fungus play havoc generally. The Damp-Tex system was created for the plant where the presence of moisture, heat and other unusual conditions hinders proper surface maintenance. Over 4,000 plants have discovered its superiorities. Write for our trial offer "Z".



Proved Lactic Acid Resistant by ACID TEST



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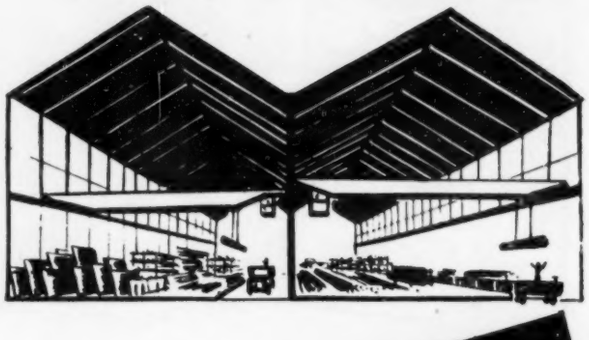
Canadian Manufacturer: Standard Paint & Varnish Co., Windsor, Canada

STEEL



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Steelmakers since 1901

WAREHOUSE DIVISION

STEEL PRODUCTS FOR YOUR NEEDS

The Warehouse Division was established to serve the Southeast with ferrous and non-ferrous warehouse products. Atlantic Steel Company's 48-year experience, making steel from our open hearth furnaces to finished items of many types, stands behind the Division in its efforts to provide metal commodities and distribute them fairly and equitably.

TELL US YOUR SPECIFIC NEEDS

Write: P. O. Box 1714

Phone: EMerson 3441

ATLANTA 1, GEORGIA

PERSONAL NOTES

ABOUT MEN YOU KNOW

Lawrence Arell, former second shift overseer of spinning at Fine Fabrics, Inc., Worcester, Mass., has been placed in a similar capacity by the Northboro (Mass.) Woolen Mills. **Abel Cassie,** for the past two years associated with a woolen mill in Peru, is now overseer of spinning at Fine Fabrics.

T. Wendell Prestwich, vice-president in charge of worsted manufacturing, and **Andrew B. Walls,** vice-president in charge of the woolen division, have announced their retirement with the American Woolen Company.

Joseph Wozny has become second shift overseer of carding at Charlestown Woolen Mills, Keene, N. H.

Thomas R. Byrne has succeeded the late Frank C. Maddox as sales manager of the Norwich (N. Y.) Knitting Co., and will make his headquarters in New York City. Mr. Byrne has been with this company since 1936.

Fred Bray, former production manager of the woolen and worsted division of Cohn-Hall-Marx, New York, N. Y., has joined Holyoke (Mass.) Fabrics, Inc., as general manager.

Leon C. Lis, having been associated with the Virginia-Carolina Chemical Co. for several years, has been made production manager of the Taftville, Conn., plant, where Vicara is manufactured.

Sherman Boutwell, former superintendent of the U. S. Bunting plant in Lowell, Mass., of Ames Worsted Co., has been appointed superintendent of Ames in Southbridge, Mass. **L. Broughton,** former assistant superintendent of U. S. Bunting, has succeeded Mr. Boutwell in Lowell.

Daniel F. Sheehy has resigned as manager of the tricot and industrial fabrics divisions of Burlington Mills Corp. (N.Y.).

Gordon Hart has succeeded **John Reeve** as plant manager of the Pickens (S.C.) division of Textron Southern, Inc. Mr. Reeve has been promoted to industrial engineer of the sewing division at the Anderson, S. C., branch.

Paul M. Jones, former sales promotion manager, has been appointed to head the new sales promotion offices of the National Cotton Council

Mr. Jones

in New York. Among his duties will be the direction of the promotion activities formerly conducted by the Cotton-Textile Institute.

Ernest W. Chamberlain, former controller, has been named treasurer of Goodall-Sanford, Inc. **Elmer L. Ward** formerly was both president and treasurer.

John D. Jones, former general superintendent of operations at Union Buffalo Mills in Union, S. C., has been made superintendent of Santee Cotton Mills, Bamberg, S. C.

Elliott Morrill, Rit Products Corp., has been elected chairman of the Midwest section of the American Association of Textile Chemists & Colorists.

John H. Jackson, former card room overseer with Bladenboro (N. C.) Cotton Mills, Inc., has accepted a similar position with the Anchor Mills Co., Huntersville, N. C.

Robert Paire has been promoted from shift overseer to superintendent of weaving at Schneider Mills, Taylorsville, N. C. **Woodrow Shoemaker** replaces Mr. Paire as shift overseer.

Charles W. Gunter has announced his resignation as vice-president and

HOW ANDERSON SHIELDS INCREASE SPINNING ROOM EFFICIENCY

Spinning rooms using Anderson Shields save time and money, and prevent disruption when unnecessary breaking, chipping, and splitting of bobbins and spools is avoided. In a year's time these items alone can amount to a surprising sum . . . Insist on Anderson and get the best protection metal shields afford . . . Watch your spinning room efficiency increase!

TEXTILE SHIELD CO., INC.

Metal Protection for Wood Turnings

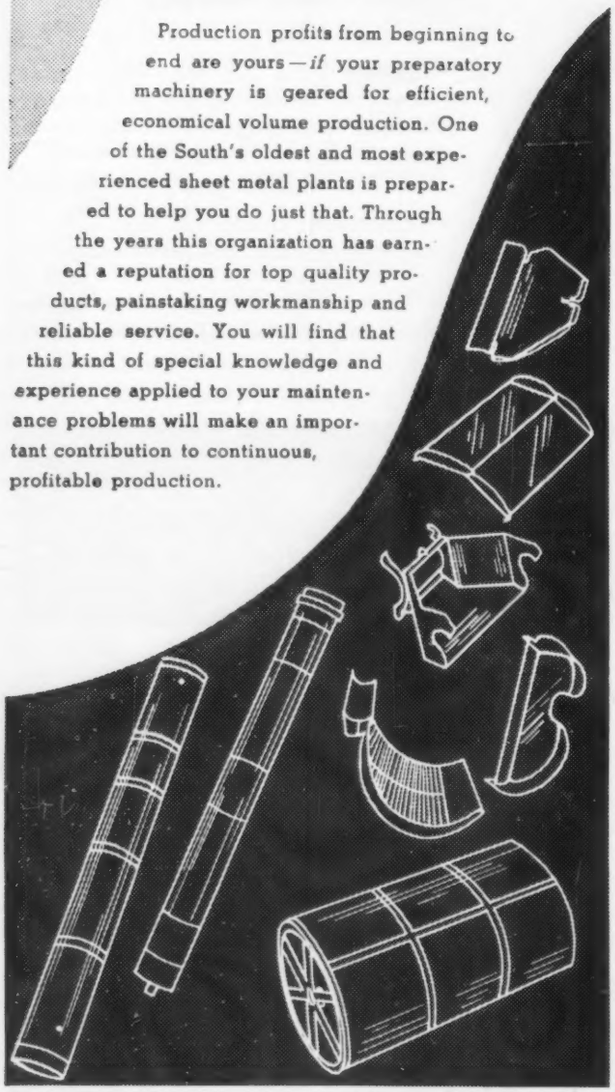
J. N. ANDERSON, *Treas.*
LAWRENCE, MASS., U.S.A.

CUT COSTS
INCREASE EFFICIENCY
STEP UP PRODUCTION

with sheet metal parts of
PROVEN QUALITY

Made and delivered with
DEPENDABLE SERVICE

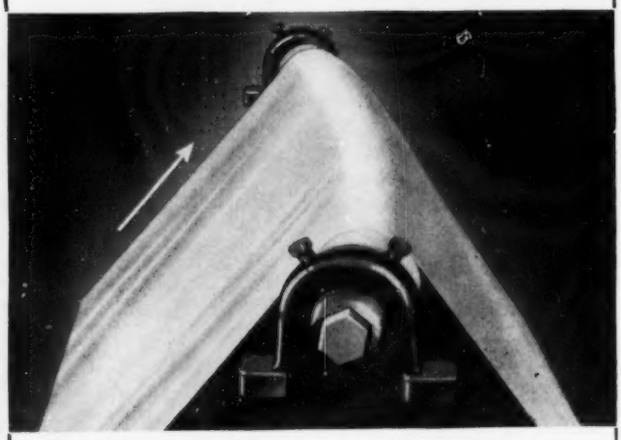
Production profits from beginning to end are yours—*if* your preparatory machinery is geared for efficient, economical volume production. One of the South's oldest and most experienced sheet metal plants is prepared to help you do just that. Through the years this organization has earned a reputation for top quality products, painstaking workmanship and reliable service. You will find that this kind of special knowledge and experience applied to your maintenance problems will make an important contribution to continuous, profitable production.



GASTONIA TEXTILE SHEET METAL WORKS, INC.
GASTONIA, NORTH CAROLINA

A SHEET METAL WORKS SERVING TEXTILE MILLS

You Obtain Widthwise Expansion
ON ALL FABRICS OR FILMS
with . . .



Mount Hope **Free-Wheeling**
EXPANDER

The Mount Hope Free-Wheeling Expander is regularly used to expand widthwise all types of fabrics, including rayon marquisette, and rayon and cotton tire cord, in conjunction with —

CALENDERS • CONTINUOUS DYEING MACHINES • DRY CANS • MERCERIZING MACHINES • WATER MANGLES • QUETCHES OPEN SOAPERS • TENTER FRAMES • STARCH MANGLES • DYE PADS — and in front of nip rolls everywhere in the mill.

Its advantages are as follows:—

1. Because the warp is subjected to minimum tension less bow than usual is required, resulting in extra long life for the Neoprene surface of the expander.

2. Expanders may be set at any desired angle to the cloth to adjust the amount of widthwise stretch produced.

3. Ball bearings, grease packed, are securely mounted in steel spools to outlast many Neoprene sleeve coverings, and so designed that they cannot stick nor turn on the axle and cut it.

4. Sealed ends are furnished for wet service to protect bearings.

Wrtie for bulletin ECI

MOUNT HOPE MACHINERY CO.
42 Adams St., Taunton, Mass.

Representatives—Parkman Collins Company, Boston—for Maine • Ingalls Engineering Company, Providence—for N. H., Mass., R. I., and Conn. • John H. Andresen, Inc., Paterson—for Southeastern N. Y., N. J., and Pa. • A. B. Julin, Watertown, New York—for Northern and Western N. Y. • Slaughter Machinery Company, Charlotte—for the South • S. S. Wilson, 1737 Howard St., Chicago—for Mid-West • Sidney Springer, Los Angeles—for California • W. J. Westaway, Ltd., Hamilton and Montreal—for Canada.

general manager of Mooresville (N. C.) Mills, Inc.

J. H. Dillon, director of research at the Textile Foundation and the Textile Research Institute, Princeton, N. J., and **Ernest R. Kaswell,** president and associate research director of the Fabric Research Laboratories, Inc., Boston, Mass., have been elected Fellows of the Textile Institute, Manchester, England. **Stanley Backer,** head of the textile materials engineering laboratory of the Philadelphia Quartermaster Depot of the U. S. Army, has been elected to Associateship of the Institute.

Curt E. Forstmann, president of Forstmann Woolen Co., Passaic, N. J., has been elected chairman of the board, but will continue as president.

Winston Garth, former assistant superintendent of the Dallas Mfg. Co., Huntsville, Ala., has accepted the position as superintendent of the Hartsville (S. C.) Cotton Mill.

Raymond E. Nelson, former assistant superintendent, has succeeded **Frank E. Morey,** recently retired, as general plant superintendent of the Oscar Heineman Corp., Chicago, Ill.

James J. Lamb, in charge of men's wear sales, has been made a vice-president of Southeastern Cottons, Inc., New York, N. Y. Also announced is the election of **George Felker, III,** as assistant to the president.

Milton Kravitz, former general manager of the Dixo Mills Corp., Paterson, N. J., has purchased the Schoolhouse Textiles, Wilkes-Barre, Pa., and plans to manufacture plain and novelty fabrics on commission.

Ivan Y. T. Feng a 1949 N. C. State College graduate, has become research associate in the college's School of Textiles. Mr. Feng will be engaged in a research project designed to reduce neps in cotton fabrics.

Abe Zagor has announced his resignation as sales manager of Bachmann Uxbridge Worsted Corp., Uxbridge, Mass.

The following have sold their interests in the company and its affiliates and resigned their positions with Native Laces & Textiles, Inc., New York, N. Y.: **John S. Lawrence,** executive vice-president; **Max Solomon,** vice-president; **Louis S. Fryer,** vice-president; **Albert K. Lippmann,** controller and assistant secretary; **O. W. Hampton,** purchasing manager; **Dr. E. A. Wolff,** chemical director, and **Frank Lungaro,** technical assistant of the Levers lace division.

Aberfoyle Mfg. Co., Philadelphia, Pa., has announced the appointment of **William Galey,** former assistant

Mr. Galey

sales manager, as sales manager of the company's northern division, with headquarters in Philadelphia.

Francis W. White, former resident manager of Wood Worsted Mills, has been elected vice-president in charge of worsted manufacturing of American Woolen Co., New York. He succeeds **T. Wendell Prestwich** resigned.

H. Wadsworth Crawford, Jr., former assistant to the general manager, has been elected vice-president of Stevens Linen Associates, Inc., Webster, Mass. **Thomas M. Lonergon** was made a director and will continue as controller.

J. G. Shedd, general manager, has been named vice-president of Lane Cotton Mills, Inc., New Orleans. He is taking over the duties of **J. F. Odenheimer,** who resigned as president recently, and will be in complete charge of the mills.

James Leigh, former head of the printing department of Dominion Burlington Mills, Ltd., Montreal, Que., Can., has been made assistant superintendent of the converting division, a new post.

Lewis F. Sawyer, formerly associated with the Cotton-Textile Institute as industrial accountant, has joined Manchester (N. H.) Narrow Fabrics Co.

William J. Yates, Johnston Mills Co., Charlotte, N. C., has been elect-

Moretex 3S* Size

Moretex 3S is a synthetic product which combines chemically with starches, gums, and gelatins to form a stable mix, which insures:

Uniform Sizing
Better Adhesion
Stronger Yarn
Smoother Yarn
Reduced Shedding

Easily Removed
Moretex 3S Sizings are easily removed by medium temperature washings.

*Trade Mark applied for

New Different Better

Write for full information

Moreland Chemical Company Incorporated
Spartanburg, S.C.

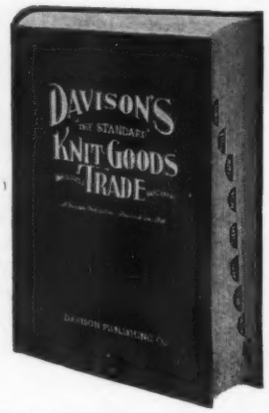
To Buy, to Sell, to Know the Mills,

Here Is the Only Annual Knit Goods Register In the New 59th Annual Edition

"An authority on knit goods for almost sixty years"

Over three times an ordinary year's corrections! A Twenty-six Thousand Dollar Revision.

Reports and Lists The Entire Knitting Industry Complete!



OFFICE EDITION $6.50 POCKET EDITION $5.50

The only annual register of the Knitting Industry.

NEW NAMES, NEW FIRMS, NEW ADDRESSES, NEW MARKETS, AND NEW BUYING SOURCES

3056 Knitting Mill reports in detail; officers, machinery, etc.
701 Knitting Yarn Spinners' reports; equipment, sizes, etc.
778 Knitting Yarn Dealers are also listed.

NEW ENLARGED LISTS AS BELOW

561 Knit Goods Manufacturers' Agents
1691 Knit Goods Wholesalers with buyers; over 350 new firms.
981 Chain store organizations.
1915 Department Stores with Knit Goods Buyers' Names.

THE NEW 59TH ANNUAL
DAVISON'S KNIT GOODS TRADE

represents an investment of almost twenty thousand dollars by the publishers in thoroughly revising thousands of separate mill reports, classifying them by product, alphabetically indexing them and also including about twelve thousand allied firms. Arranged and edited with rigid precision, its nine hundred pages will bear the test of any examination! It is yours for only $6.50 in the deluxe office edition or $5.50 for the handy size! No increase in price.

F.O.B. Ridgewood, N. J.

The Entire Industry Is Conscientiously Reported, Listed and Cross-Indexed in a quality Cloth and Gold Stamped Volume.

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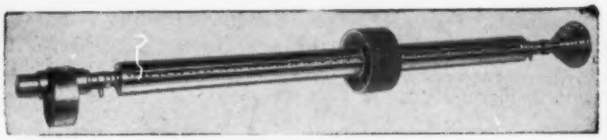
How you can lengthen the life of your Card Grinders

Our service engineers — card grinding specialists — are always at your service. They will go to your plant to work out your card grinding problems and check your machinery. They will give you constructive information on grinding bare cylinders or card wire.



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Worcester, Mass. — Charlotte, N. C.

Sales Engineers in the South:
Charles E. Hendrick—L. P. Bell—B. L. Quick
Office and plant, 1623 North Tryon Street, Route 29
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M·B "AMOSKEAG" PNEUMATIC ROLL PICKER

MODEL A.V.T.
20,000 R.P.M.

This is NOT a grinder, but the original pneumatic tool especially designed for the SPECIFIC Purpose of
REMOVING LINT and FLY
from the top rolls and other parts of the drafting elements on
SPINNING FRAMES also ROVING FRAMES

Spindle design permits using PICK (which gathers the fly and lint), 3/16" diameter by 5" long when used on Spinning Frames and 3/16" diameter by 7" long when used on Roving Frames. Exhaust air directed back of roll picker to prevent fly and lint from being blown into yarn when spinning—PATENT APPLIED FOR. Special grease-sealed bearings. No lubrication required. Weight only 14 oz.

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MATTHEWS EQUIPMENT CO.....93A Broadway, Providence 3, R. I.
New England Representatives

M·B PRODUCTS
130-134 Larned St.
DETROIT 26, MICHIGAN

ed president of the Carolina Yarn Association, succeeding **Henry K. Kelly** of the American Viscose Corp., Charlotte.

T. P. Taylor, former superintendent of Monticello (Ark.) Cotton Mills, has assumed the duties as superintendent of the American Yarn & Processing Company's Dixon plant in Gastonia, N. C. He succeeds **A. P. Ritchie,** retired. **John H. Fagan,** former superintendent of Profile Cotton Mills, Jacksonville, Ala., has replaced **Walter B. Helms,** resigned, as superintendent of the company's Rush plant, Mount Holly, N. C.

D. H. Kennemur, former chief chemist at the Renfrew Bleachery, Travelers Rest, S. C., has been appointed superintendent of dyeing and finishing of the Cramerton (N. C.) division of Burlington Mills Corp.

T. B. Hayward, manager of Swift & Co. wool department, has been elected chairman of the board of trustees of the Philadelphia (Pa.) Textile Institute which has been incorporated under a new charter.

J. P. Stevens & Co., Inc., has announced the following elections: **John P. Baum,** vice-president; **James Harrell,** vice-president; and **Herbert C. Ervin,** assistant secretary.

Stanley Wilkinson, former president of Hart Top Mfg. Co., Holyoke, Mass., has been named general manager of the Wool Combing Corp. of Canada, Ltd., Acton, Ontario. He succeeds **R. N. Baird** who is now assistant general manager of Monarch Knitting Co., Ltd.

Morris L. Rixon, former sales manager of the American Yarn & Processing Co. in the New York and New England territory, has been chosen general manager of National Spinning Co., Inc.

S. Frank Jones, a former co-owner of the Crescent Narrow Fabrics Corp., Charlotte, N. C., has entered the yarn brokerage business and will maintain offices in Charlotte.

Robert L. Lingelbach has been elected secretary of Rayonier, Inc., New York, N. Y.

Walter Pratt of the George Grayson Co. has been made president of the Pennsylvania Textile Executive Association, Philadelphia, Pa.

Oliver Iselin, Jr., former assistant vice-president has been appointed vice-president of Iselin-Jefferson Co., Inc., New York, N. Y.

Gustave Gerstle, Edward S. Komar and **Irving Casin,** active in production, planning, and sales, respectively, have received promotions to vice-presidents of Native Laces & Textiles, Inc., New York, N. Y.

Henry J. Briggs has announced his resignation as sales manager of Lane Cotton Mills Co. in New York.

Harvey Mathews, director of public relations of Riegel Textile Corp., New York, N. Y., has tendered his resignation. Mr. Mathews plans to go into business for himself at 347 Madison Ave., New York.

Honors were recently bestowed on two Georgia Tech graduates. Elected to ANAK, oldest student organization at Tech, were **Alex R. Howard,** vice-president of Cannon Mills Company, Concord, N. C., and **C. L. Hamilton,** vice-president and treasurer of

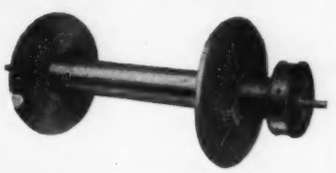
Mr. Howard

Crown Cotton Mills, Dalton, Ga. The honorary fraternity membership was accorded to the graduates who have shown continued interest in Georgia Tech and the welfare of the institution.

(Continued on page 207)

MILTON
A TIME TESTED LINE
Engineered for Production
MILTON WARP BEAMS
for BROAD, NARROW FABRIC, RIBBON, VELVET, CARPET LOOMS

BROADLOOM BEAMS



For C & K Looms (pictured) and Draper Looms (with let-off gear). Steel barrels, cast iron flanges.

RIBBON LOOM BEAMS

Steel barrels, with your choice of adjustable head and fixed shaft (pictured) or fixed head with removable shaft.

GET THE COMPLETE STORY

Write for Catalog 45 (Steel) or Catalog 45-A (Light Metal)

MILTON MACHINE WORKS, INC.
DESIGNERS • ENGINEERS • MANUFACTURERS
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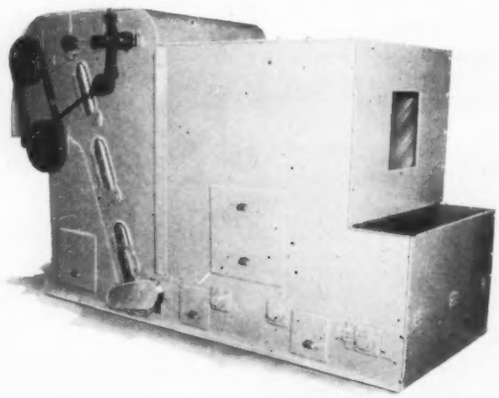
Now the *Improved* Salisbury Enclosed Blending Feeder!



FEATURES YOU'LL APPROVE

1. New design featuring fully enclosed 3/16" fabricated steel hopper, utilizing present cast iron front of F-5 hopper. Therefore offering you the benefit of a completely new feeder at considerably lower cost.
2. "FAFNIR" Self-Aligning Ball Bearings eliminate oil leakage and assure clean fibres.
3. Large hopper facilitates better blending of various fibres . . . less time of operator required.
4. Provision for attaching automatic sprinkler head and vacuum lines . . . all usable waste fibres may be reclaimed from waste container.
5. Safety covers for sprockets and gears; removable closure plates.

We'll Gladly Give You ALL the Facts

SALISBURY IRON WORKS, Inc. SALISBURY NORTH CAROLINA

We Also Manufacture Rayon and Cotton Loom Beams and Sargent Comb Assemblies.

10.000.000 CARDING POINTS NEED PERFECT GRINDING ROLLS

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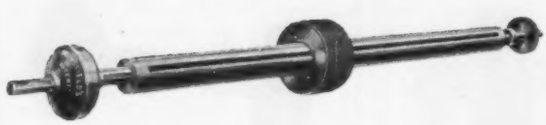

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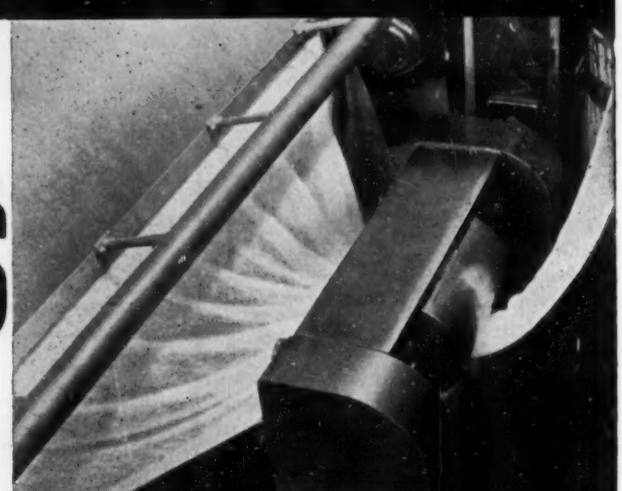

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HELPFUL BOOKLETS FREE

Here is the "cream of the crop" of literature on textile subjects as prepared by TEXTILE INDUSTRIES advertisers to aid in mill operation and management. These reference books and catalogs are free for the asking and there is no obligation involved. Read through the list carefully for booklet on the subject or New Equipment in which you are interested. Then fill in the numbers of those desired on the coupon on page 206 and mail to TEXTILE INDUSTRIES. ("First Listings" shown below are not confined solely to TEXTILE INDUSTRIES advertisers).

This service is restricted to those engaged in operation and management of textile industries

First Listing of New Publications

12-1. Stainless Steel Pumps. This company announces the addition of stainless steel pumps to their line of industrial pumps. The new pumps represent the latest in advanced design and are engineered to give efficient service in the handling of corrosive liquids. Bulletin 725.3 gives complete details and performance curves. Goulds Pumps, Inc., Seneca Falls, N. Y.

12-2. Industrial Thermometer. Complete data on liquid-in-glass industrial thermometers is presented in easy-to-use tabular and sectionalized form in Bulletin "E." Illustrations of all basic models, sizes, forms, and attachments with application data to enable the user to select the proper thermometer for any industrial application. Precision Thermometer and Instrument Co., 1562 Brandywine St., Philadelphia, Pa.

12-3. Thread Trimming. The development of "Trimology," the science of automatic thread trimming, is briefly discussed, along with its specific meaning and the features of the Trim-Master machine. Commencing with the hosiery industry and gradually branching out into all types of sewn garments, this machine is now available for practically every branch of the needle trades. Ginsberg Machine Co., 224 Fifth Ave., New York 1, N. Y.

12-4. Transparent Films. Users of transparent films will be interested in a new booklet, "How to Handle Adhesives for Transparent Films," which is a comprehensive and authoritative presentation on this subject. Anyone working with transparent films should have this handy pocket size edition available for frequent reference. National Adhesives, 270 Madison Ave., New York 16, N. Y.

12-5. Houghto-Solv. Revised and enlarged folder on this fuel oil additive which thoroughly dissolves sludge in the oil storage tanks and the entire system. This solvent is said to improve operating efficiency of the heating system and eliminates expensive cleaning jobs by making the sludge burnable with the oil. E. F. Houghton & Co., 303 W. Lehigh Avenue, Philadelphia 33, Pa.

12-6. Multi-Stage Turbines. Material contained in the catalog No. 4200 includes a discussion of the economics of by-product power, along with diagrammatic sketches that show the utilization of heat for various typical plant operating conditions. Also included is a section on helical gears for applications where geared turbine driven equipment is used. De Laval Steam Turbine Co., Trenton 2, N. J.

12-7. Cutting Maintenance Costs. How specialized cleaning materials and time-saving methods of application promote smoother operation and more economical maintenance of air conditioning, humidifying and refrigerating systems is discussed in an interesting 20-page booklet. Oakite Products, Inc., 126 C Thames St., New York 6, N. Y.

12-8. Steam Humidifiers. Bulletin No. 1772 covers the complete line of steam humidifiers, including two new air-controlled models. The 12-page, illustrated bulletin contains discussion of dry air problems, tables on desirable relative humidities and regain of hydroscopic materials, etc. Armstrong Machine Works, Three Rivers, Mich.

12-9, Magnetic Equipment. Data contained in Catalog No. C-5000A includes brief specifications, lists of applications and features of the equipment which is designed for separation of magnetic and non-magnetic products. The catalog is well illustrated with photographs and drawings. Dings Magnetic Separator Co., 4740 W. Electric Ave., Milwaukee 14, Wisconsin.

12-12. Bar Screen. Folder No. 2327 describes and illustrates the Thru-Clean bar screen for removal of trash and large solids from water and sewage in water, sewage and industrial waste treatment plants. Operation of unit is clearly shown by drawing and photographs. Specifications for installation outlined on back page of folder. Link-Belt Company, Chicago 9, Ill.

12-13. Flame Retardant. "Erifon," a new product which can be applied by the textile manufacturer to cotton and rayon goods to obtain flame resistance, is described in an interesting and informative bulletin, No. A-9228. Swatches of both treated and untreated cotton and rayon are included in bulletin for examination. The flame resistance is incorporated as an integral part of the fiber, consequently, the "Erifon" treatment, it is claimed, cannot be easily removed by weathering, dry cleaning or laundering. E. I. du Pont de Nemours & Co., Inc., Pigments Department, Wilmington, Del.

12-14. Spindle Oiling Machine. This unit is a portable type of machine which includes a supply tank mounted on wheels and is sufficiently light to be pushed along the length of the twisting machines. A recent improvement includes a new type of gun which gives greater turbulence in flushing bolsters and bases, with greater suction capacity for carrying off excess oil. The Wicaco Machine Corp., Wayne Junction, Philadelphia, Pa.

12-15. Fillwinder. Bulletin M-2 describes the Foster Muschamp Fullwinder, a high speed bobbin winder. Complete technical details are given. Foster Machine Company, Westfield, Mass.

12-16. Lighting. Adequate lighting increases production, relieves fatigue, and reduces accidents by building up the safety factor. This company's line of industrial and commercial fluorescent lighting units is listed and illustrated in a bulletin, "The Latest in Lighting." Alexander-Tagg Industries, Inc., Hatboro, Pa.

12-17. Filling Feeder. The A & W filling feeder for Crompton & Knowles Automatic Bobbin Changing Loom is described and pictured in new folder. With this attachment, the loom uses only two shuttles, but the four cells of the magazine are in operation two for each shuttle. The filling from each pair of cells is taken alternately thereby the filling in the magazine is always used evenly. The A & W Machine Co., P. O. Box 111, Charlton City, Mass.

12-18. Sunray Products. Company's complete line of handling equipment for the textile industry is illustrated in folder. Among items listed are, a special doffing truck, bobbin dumping truck, battery filling truck and a special packaging truck. Sunray Company, Camp Croft, Spartanburg, S. C.

GENERAL ECONOMIC, MANAGEMENT . . .

4. HOW FACTORING CAN INCREASE PROFITS—Describes how factoring works out in keeping clients' capital liquid and attitude of factor toward checking credits, including typical balance sheet.—COMMERCIAL FACTORS CORP., New York City.

5. FACTORING AND FINANCING — Illustrated booklet on how factoring works, cost and credit information.—TEXTILE BANKING COMPANY, New York, N. Y.

6. ROYCE REPORTER—Published quarterly containing information of general interest to the textile field.—ROYCE CHEMICAL CO., Carlton Hill, N. J.

7. RAYON TELLS ITS STORY TO THE PUBLIC—Folder containing reprints of advertisements explaining some of the many roles in which rayon is serving the American public.—AMERICAN VISCOSE CORPORATION, New York 1, N. Y.

8. "WASTE REDUCTION AND CONTROL"—19-page illustrated booklet giving primary waste factors; how to calculate cost of departmental waste; actual waste figures from mills; contains survey of waste practices. — SOUTHEASTERN ENGINEERING CO., West Point, Ga.

10. "LABOR AND MANAGEMENT BENEFIT BY INDUSTRIAL ENGINEERING PRINCIPLES"—8-page illustrated folder outlining principles of industrial engineering as they apply to textiles.—AMERICAN ASSOCIATED CONSULTANTS, INC., New York, N. Y.

11. FLETCHER JUNIOR "SUPER-SELF-BALANCING" EXTRACTOR—Illustrated folder describing this new extractor with the highly efficient self-balancing arrangement which uses steel springs instead of rubber buffers.—FLETCHER WORKS, INC., Philadelphia, Pa.

12. CONDENSED LISTINGS—8 page pocket sized booklet listing by plant flow the machinery and mill supplies available. Designed to help purchaser in grouping his orders to greatest advantage.—ATKINSON, HASERICK & CO., Boston, Mass.

PLANT AND PLANT MAINTENANCE . . .

102. "TANK TALK"—Sixteen page booklet of illustrations showing various types of elevated steel tanks constructed and erected by manufacturers as well as stand pipes, reservoirs, storage and high pressure vessels, cylinders, along with helpful technical data. Also a list of what a few of the cotton mills, etc., said.—B. D. COLE MANUFACTURING COMPANY, Newnan, Ga.

103. HUMIDIFICATION, EVAPORATIVE COOLING—Bulletins available displaying AMCO automatic self-cleaning atomizers, controls, and evaporative cooling equipment.—AMERICAN MOISTENING COMPANY, Providence, R. I.

104. SURFACE MAINTENANCE — Complete literature and details on the method of diagnosing surface maintenance problems and selecting the proper chemicals and coatings to solve them.—STEELCOTE MANUFACTURING CO., St. Louis, Mo.

105. FLUORESCENT LIGHTING FIXTURES—Specification sheets describing in detail industrial lighting fixtures of particular interest to the textile industry. Full information given on construction, light curve, methods of hanging, etc.—SMITHCRAFT LIGHTING DIVISION, Chelsea 50, Mass.

106. STOP THOSE LEAKS — Learn how your maintenance man can quickly and easily stop and prevent leaks in your old roof, whether it is tin, iron, concrete, slag, gravel, tar paper or felt.—STONHARD COMPANY, 205 Stonhard Bldg., Philadelphia 23, Pa.

107. FINNELL SCRUBBERS — Illustrated leaflets describing and giving specifications for the new Finnell floor scrubbing machines.—FINNELL SYSTEM, INC., Elkhart, Ind.

115. ATOMIZER HUMIDIFIER — Recent issue of "Parks' Parables" on Turbomatic self-cleaning humidifiers, and automatic regulation. — PARKS-CRAMER CO., Fitchburg, Mass., and Charlotte, N. C.

129. BAHNSON CENTRIFUGAL HUMIDIFIER—Bulletin 327 describes this completely self-contained industrial humidifier which requires only water feed and drain and electrical connection to install.—THE BAHNSON COMPANY, Winston-Salem, N. C.

135. SAFETY COLOR CODE—How six standard colors can be used to reduce hazards, cut down accidents.—E. I. DU PONT DE NEMOURS & CO., INC., Finishes Division, C44, Wilmington, Dela.

138. MAGNESIUM IN THE TEXTILE INDUSTRY—Illustrated booklet on properties of magnesium for spinning, twisting, winding, knitting machines, looms, beams, spools, bobbins.—ALUMINUM CO. OF AMERICA, Pittsburgh, Pa.

150. RIHCO HUMIDIFIERS AND COOLING SYSTEMS—Bulletin describes new atomizers with construction lessening air consumption in humidifier systems, evaporative cooling system. — ALDRICH MACHINE WORKS, Greenwood, S. C.

151. INDUSTRIAL BRUSHES—Illustrated Booklet of industrial brushes featuring textile usage on shears, printing machines—also flock, raising and cylinder brushes.—M. W. JENKINS' SONS, INC., Cedar Grove, N. J.

152. AIR CONDITIONING FOR THE TEXTILE INDUSTRY—40-page illustrated book covering air conditioning from humidity control to complete refrigerated conditioning with installations, charts, covering ABC's of cooling textile mills.—CARRIER CORP., Syracuse, N. Y.

159. BAHNSON HUMIDUCT SYSTEM — Bulletin 330 describes this unit system of air conditioning for humidifying, cooling, heating, ventilating, filtering, and dehumidifying in any desred combination. —THE BAHNSON CO., Winston-Salem, N. C.

162. MODERN METHODS OF TEXTILE FLOOR MAINTENANCE—Illustrated treatise on the history of floor cleaning in textile plants and a detailed description of new methods for reducing floor cleaning costs, as well as preserving textile mill floors.—G. H. TENNANT COMPANY, Minneapolis 11, Minn.

163. LAWLOR FLOOR MACHINES — Illustrated pamphlet containing specifications and describing All-Purpose Floor Machines.—THE SELIG COMPANY, Atlanta, Ga.

166. OAKITE PLANT MAINTENANCE DIGEST—A 16-page manual describing materials and methods for handling 54 recurring maintenance cleaning and related tasks in factories and mills.—OAKITE PRODUCTS, INC., New York 6, N. Y.

170. WHY IT PAYS TO ANCHOR YOUR TEXTILE MACHINES WITH UNISORB — Illustrated booklet discussing control of vibration and noise and how UNISORB reduces maintenance costs.—THE FELTERS CO., Boston, Mass.

172. VENTILATING FANS — Bulletin 3339 gives facts on Buffalo Ventilating Fans. — BUFFALO FORGE CO., Buffalo, N. Y.

177. DUCTLESS AIR CONDITIONING — Recent bulletin describing same.—AMERICAN MOISTENING COMPANY, Providence, R. I.

179. TOLEDO SCALES — A condensed catalogue which illustrates and describes all of the principal types of weight control equipment used in the textile industryy. — TOLEDO SCALE COMPANY, Toledo, Ohio.

181. AIR FILTRATION AND DUST CONTROL—24 pages on atmospheric control, including engineering data.—AMERICAN AIR FILTER CO., INC., 275 Central Avenue, Louisville 8, Ky.

POWER TRANSMISSION, MOTORS, BELTING, LUBRICATION . . .

201. ROLLER CHAINS, ETC.—Catalogs RC-49 and V-135-46 supply practical information, advantages and complete specifications helpful in selecting the proper power transmission chain drive to meet the requirements of textile machinery.—WHITNEY CHAIN & MFG. CO., Hartford, Conn.

202. RELIANCE MOTOR—Bulletin C-130 on the explosion-proof, corrosive-resisting a-c motor. Design features exclusive with the new motor are enumerated and illustrated in the bulletin.—THE RELIANCE ELECTRIC & ENGINEERING CO., 1076 Ivanhoe Road, Cleveland, Ohio.

204. G-E MOTORS—Bulletin GEA-5338 contains information on the new line of life-time lubricated, unit-bearing FHP motors.—GENERAL ELECTRIC COMPANY, Schenectady 5, N. Y.

205. AUTOMATIC PRODUCTION CONTROL — Bulletin GN-487 on automatic speed control of many machines and processes through Variable Speed Equipment with mechanical and hydraulic automatic controls. Contains many illustrations, drawings and complete description of many applications.—REEVES PULLEY COMPANY, Columbus, Ind.

211. **JOHNSON BRONZE CATALOGUE NO. 460**—Shows over 850 sizes of cast bronze bushings, 350 sizes of UNIVERSAL Bronze Bars and over 250 Electric Motor Bearings. — JOHNSON BRONZE COMPANY, New Castle, Penna.

212. **GATES TEXTILE ACCESSORIES** — Showing the increased efficiency and economy to be secured through the use of Gates cone belts, evener belts, card bands and loom binder cushions.—THE GATES RUBBER COMPANY, Denver, Colo.

213. **ELECTRICAL SPECIALTIES**—Catalog No. SS68, 64 pages, lists manual and magnetic motor control and accessories, safety switches, Multi-Breakers and electrical specialties.—CUTLER-HAMMER, INC., 361 N. 12th St., Milwaukee 1, Wis.

216. **LEATHER BOOKLET NO. 202** — Attractive book illustrating and describing BONDARON Special Tanned Leather as used in various forms such as Check Straps, Solid Round Leather Belting, Flat Belting.—CHAS. BOND CO., Philadelphia, Pa.

217. **SERVICE HAND BOOK**—Copy of Lubriplate Service Hand Book, describing lubricant which does not cause drag, available on request.—FISKE BROS. REFINING CO., Newark 5, N. J.

219. **ROLLER CHAINS & SPROCKETS** — Data Book No. 1957-A describes the Link-Belt Silverlink precision steel roller chain. Can be used on short centers at high ratios; can be applied to small fractional horsepower machines or to units involving more than a thousand horsepower. — LINK-BELT COMPANY, 307 N. Michigan Ave., Chicago, Ill.

235. **JOHNSON LEDALOYL BEARING BRONZE** —Illustrated booklet telling the complete story of Johnson Ledaloyl Bronze, the newest development in self-lubricated bronze for textile bearings and bushings.—JOHNSON BRONZE COMPANY, New Castle, Pennsylvania.

236. **LEATHER BELTING CALCULATOR**—Handy and attractive calculator for determining belt, speeds, horsepower per inch of belt widths, etc., will be sent free on request.—J. E. RHOADS & SONS, Philadelphia, Pa.

244. **TEXACO SPINDURA OILS**—Folder on lubrication for all types of spindles, based on actual tests.—TEXAS CO., New York City.

263. **NEEDLE ROLLER BEARING**—Catalog Engineering and Application Data Edition 32 contains full data on selection of proper Needle Roller Bearings and outlines uses of such in various commodities including textile uses, types, installations, lubrication, etc. — TORRINGTON COMPANY, Torrington, Conn.

264. **NEW DEPARTURE SHOP MANUAL**—Illustrated catalog showing ball bearing mounting and maintenance practice. Covers storage, cleaning lubrication, types of bearings.—NEW DEPARTURE DIV., GENERAL MOTORS CORP., Bristol, Conn.

265. **INTERCHANGEABLE BALL BEARING FOR REPLACEMENT**—Charts showing numbers used by manufacturers to identify bearing characteristics, also information on specifications.—NEW DEPARTURE DIV., GENERAL MOTORS CORP., Bristol, Conn.

269. **LUBRICATION AND MAINTENANCE OF BALL AND ROLLER BEARINGS**—Illustrated bulletin describing efficiencies and economies of NON-FLUID OIL for all types ball and roller bearings.—NEW YORK AND NEW JERSEY LUBRICANT CO., New York, N. Y.

271. **CARDING, SPINNING AND WEAVING LUBRICATION**—Informative bulletin describing advantages of NON-FLUID OIL over ordinary lubricants for the lubrication of carding, spinning and weaving machinery.—NEW YORK AND NEW JERSEY LUBRICANT CO., New York, N. Y.

275. **HYATT ROLLER BEARINGS** — A 16-page bulletin giving details of the application of roller bearings to all types of textile machinery.—HYATT BEARINGS DIV., General Motors Corp., Harrison, New Jersey.

276. **SPEED CONTROL**—Bulletin 20B6051G describes Texrope variable speed drives. — ALLIS-CHALMERS MFG. CO., Milwaukee 2, Wis.

INSTRUMENTS, STEAM SPECIALTIES . . .

301. **JOHNSON ROTARY PRESSURT JOINTS**—Bulletin describing the rotary pressure joint which requires no packing, no lubrication and no adjustment, giving installation and maintenance instruction, types, sizes, dimensions and prices. — THE JOHNSON CORP., Three Rivers, Mich.

307. **THERMOMETER AND PRESSURE GAUGES** —Catalog 6705-R and 6706 give data on both circular and rectangular case pressure type thermometers for indicating, recording and controlling processing operations in textile industy.—BROWN INSTRUMENT COMPANY, Philadelphia, Pennsylvania.

311. **PIPING POINTERS**—Industrial maintenance book covering installation and handling of piping, valves, fittings. Well illustrated, practical tips. — CRANE CO., Chicago, Ill.

314. **MOISTURE CONTENT CONTROL** — Bulletin F-1705-1 giving details of features and benefits of moisture equipment control for slashers and textile applications. — BARBER-COLMAN CO., Rockford, Ill.

315. **CONTROL INSTRUMENTS FOR TEXTILE PROCESSES**—32-page illustrated booklet describing controls for such processes as slashing, dyeing, bleaching, kier boiling, drying, air-conditioning, etc. —BROWN INSTRUMENT CO., Philadelphia, Penna.

316. **HYDRAULIC POWER UNITS**—Literature describing hydarulic unit, motor, pump, reservoir, valving a small compact unit for operating of hydraulic calenders, presses, hydraulic controls, etc.—B. F. PERKINS & SON, INC., Holyoke, Mass.

319. **GUIDE TO CORRECT INSTRUMENT SELECTION**—This completely revised edition gives a comprehensive bird's-eye view of the companies' entire instrument line. Bulletin 98170. — TAYLOR INSTRUMENT COMPANIES, Rochester 1, N. Y.

320. **OAKITE POWER PLANT DIGEST**—A 20-page manual describing materials and methods for handling 71 cleaning, degreasing, descaling, derusting, paintstripping and related operations encountered in power plants.—OAKITE PRODUCTS, INC., New York 6, N. Y.

321. **RED-RAY BURNERS** — Bulletin describing use of Red-Ray Burners in preheating and partial drying to increase capacity of frame.—RED-RAY MFG. CO., New York, N. Y.

324. **STROBOTAC**—Informative reprint, "Strobotac Boosts Efficiency in Woolen and Synthetic Mills."—GENERAL RADIO CO., Cambridge 39, Mass.

CARDING, SPINNING, WINDING . . .

401. **LUMMUS DUSTLESS, STEEL BLENDING FEEDERS**—Bulletin describing automatically closing, positively locking door on feeders to prevent overloading, choking. — ALDRICH MACHINE WORKS, Greenwood, S. C.

402. **AUTOMATIC CLEANING AND OVERHEAD HANDLING FOR TEXTILE MILLS**—24-page bulletin describing the American Monorail Automatic Cleaner for preventing accumulation of lint on spinning twisting, winding and warping machines. Also for cleaning monitors and card room ceilings.—THE AMERICAN MONORAIL CO., Cleveland, Ohio.

403. **WINDING MACHINES—PRINCIPLES AND PRACTICES**—This series has been running for some time in TEXTILE INDUSTRIES and has now been made available in booklet form for those in the industry who desire copies.—UNIVERSAL WINDING COMPANY, Providence, R. I.

404. **LAPLESS ENDLESS SPINNER** — Bulletin and full information will be supplied on lapless endless spinner and coning belting.—TON-TEX CORPORATION, 16 West 61st St., New York, N. Y.

405. **AUTOMATIC SPINNING CONTROL** — New folder available describing the Numo automatic control specifically designed to eliminate uneven packages and tails.—NUMO MACHINE & ENGINEERING CO., Charlotte, N. C.

407. **CARD GRINDER INFORMATION**—Folder on care of card grinders, part replacement, etc.—B. S. ROY & SONS CO., Worcester, Mass., and Greenville, South Carolina.

409. **ROTO CONER**—Bulletin describing Universal rotary traverse winder, known as the Roto Coner, producing open wound cones or knitting and warping; parallel tubes for package dyeing, twisting, and sale yarn.—UNIVERSAL WINDING CO., Providence, Rhode Island.

413. **SONOCO PRODUCTS**—A 60-page illustrated booklet giving description, specifications and charts of the many Sonoco products, including bobbins, cones, tubes, cork cots, roving cans, spools, rolls, etc.—SONOCO PRODUCTS CO., Hartsville, S. C.

414. **WORSTED SPINNING**—Bulletin explaining and illustrating Saco-Lowell's new system for worsted spinning, from top to yarn in five economical and efficient stages.—SACO-LOWELL SHOPS, 60 Batterymarch St., Boston 10, Mass.

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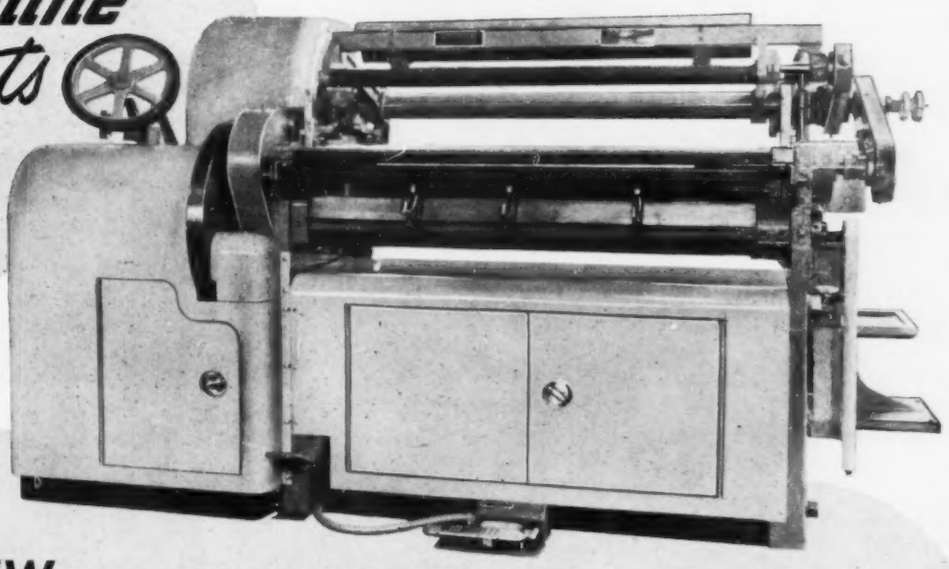
For bandage rolls and other textiles packaged in clean-cut small rolls



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. . . especially designed for fast, low-cost production of small rolls! Sensational new features of the Camachine 40-1DF include: (1) *the motor-driven riding-roll lift;* and (2) *the automatic stop* for accurate measurement of any desired length of strip, in feet or yards. It will pay you to investigate this new profit making machine. Write: CAMERON MACHINE COMPANY, 61 POPLAR STREET, BROOKLYN 2, N. Y.

AA-213

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The HEIM *"Unibal" Sweepstick*

The Heim Company developed for the U. S. armed services during the war, a self-aligning spherical bearing with just one large ball rotating within a race, and bored so that the shaft passes through its center. This "Unibal" bearing has been built into a sweepstick, and the results obtained in softer and smoother pick action are most gratifying. The body of the new Heim "Unibal" Sweepstick is resilient, rubber-bonded fabric which absorbs shocks, and in combination with the "Unibal" bearing makes a truly smooth-operating sweepstick.

Order just one pair, install them on just one loom, and keep your own records of "down time" and production losses as compared with other looms not equipped with this remarkable sweepstick. This is the best way we know of to prove that the Heim "Unibal" Sweepstick will improve your operation and actually pay for itself in extra yardage because of uninterrupted production.

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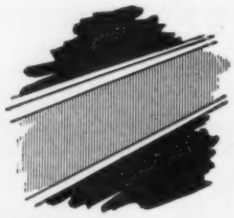

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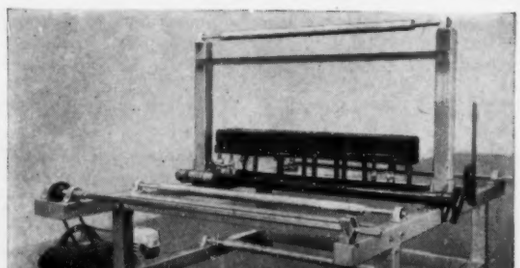

CARBOMATIC SINGEING UNIT

The Carbomatic gas-fired Infra-Red Singeing Unit was developed by Carbomatic Corporation. It combines the use of incandescent refractory radiance for the searing of "fuzz", and flame pressure-singeing to permeate all interstices of weave. Singes both sides of the material simultaneously . . . up to 400 or more yards being passed per minute. The singeing is clean, thorough, uniform; no burning or scorching of fibers. Simple adjustment permits handling of different types of fabric (such as rayons, acetates, cottons and woolens) of various weights and widths, at regulated speeds, on the same unit. Full-automatic operation.

For complete specifications, write for Bulletin C-12.

Carbomatic singeing unit is fully protected by Patent No. 2462166 and no other firm or individual is authorized to manufacture this device.

CARBOMATIC CORPORATION • ***Pioneers in Textile Infra-Red***
24-81 47th Street **Long Island City 3, N. Y.**
Southern Branch: Textile Specialty Co., Greensboro, N. C.

416. THE BRIEF SAGA OF THE RING TRAVELER—An interesting history relative to the ring traveler, which is in reality the basis of the spinning frame. John Thorpe's invention of the ring traveler, the development of the spindle, and the invention of Rabeth's Bolster type spindle are covered.—NATIONAL RING TRAVELER CO., Pawtucket, R. I.

417. SAGA OF THE RING TRAVELER—Part II of this interesting history is now available.—NATIONAL RING TRAVELER CO., Pawtucket, R. I.

418. TEXTILE APRONS—Illustrated folder showing the steps in manufacture of genuine leather aprons for all types of long draft spinning and card room machinery.—TEXTILE APRON COMPANY, East Pelton, Ga.

420. AUTOMATIC FILLING WINDING—Eight page, two color booklet describing the operation and mechanisms of the Ideatus winder.—ATKINSON, HAMMICK & CO., 211 Congress St., Boston, Mass.

421. AUTOMATIC WINDERS—Folder describing latest winding equipment with full automatic operation. Only one automatic head for up to 160 spindles.—ABBOTT MACHINE CO., Wilton, N. H.

422. MODERN TEXTILE ROLL COVERING—Illustrated booklet on roll covering problems with chart on correct usages. Also data on Acotex long draft aprons.—ARMSTRONG CORK CO., Industrial Division TEXTILE PRODUCTS SEC., Lancaster, Pa.

423. TEXTILE SHEET METAL PRODUCTS—Folder on spinnders, card screens, lickerin screens, repair work.—JENKINS METAL SHOPS, INC., Gastonia, North Carolina.

427. WINDING AND CREELING WARP YARNS—Universal's Bulletin No. 442 contains an interesting treatment of this subject.—UNIVERSAL WINDING COMPANY, Providence, R. I.

428. PNEUMATIC ROLL PICKER—Attractive bulletin descriptive of the "Amoskeag" roll picker that removes fly and lint from the top rolls and other drafting elements in spinning and roving frames.—M-B PRODUCTS, Detroit, Mich.

429. HYGROLIT YARN CONDITIONING SYSTEM—Illustrated Spicer No. 9014 describing the Hygrolit process of chemical yarn conditioning.—KEARNY MFG. CO., INC., Kearny, N. J.

430. "BLIXONICE" BEARINGS—Folder is available on this new, frictionless bearing "that never needs lubrication."—DIXON LUBRICATING SADDLE COMPANY, Bristol, R. I.

436. MAINTENANCE INFORMATION FOR YOUR SCOTT TESTER—Booklet containing maintenance data for calibration of Scott Testers, clamps for testers, gear-box lubrication, and recording.—SCOTT TESTER, INC., Providence, R. I.

437. SPINDLE TAPE LACING EQUIPMENT—Circular No. 54 illustrating and describing the Clipper method of joining spindle tapes.—CLIPPER BELT LACER CO., Grand Rapids 2, Mich.

440. SADDLES—Leaflet showing a few of the over 400 different types of saddles for both conventional and long draft spinning and roving frames.—DIXON LUBRICATING SADDLE CO., Bristol, Rhode Island.

441. SKF BALL BEARING TENSION PULLEY FOR SPINNING FRAMES—Attractive illustrated folder outlining the value of anti-friction bearing Tension Pulleys for all types of spinning frames.—SKF INDUSTRIES, INC., Philadelphia, Pa.

443. COMPARATIVE YARN TABLE—Chart giving woolen number (cut and run system), also cotton worsted and metric system; also, Comparative Rayon Denier Yarn Table.—VICTOR RING TRAVELER CO., Providence, R. I.

446. ROLLER BEARING SPINDLES—Illustrated booklet showing various types of Marquette Roller Bearing Spindles. The unique full-floating footstep bearing is pictured in cut-away views, and its advantages are described.—THE MARQUETTE METAL PRODUCTS CO., Cleveland, Ohio.

447. CONE WINDER—Form A36 describes the Foster Model 102 winder which produces the Foster knitting cone for spun yarns, warping cones and tubes for dyeing and twister supply.—FOSTER MACHINE COMPANY, Westfield, Mass.

451. CYLINDER BEARING—New bulletin available describing and illustrating the cylinder bearing for spinning frames and twisters. This bearing fits all popular makes and is self-aligning.—SOUTHERN STATES EQUIPMENT CORP., Hampton, Georgia.

454. CARD AND PICKER BEARINGS—Four-page, two-color folder which describes this manufacturer's ball and roller bearings for cards and pickers.—SOUTHERN STATES EQUIPMENT CORP., Hampton, Ga.

WEAVING, SLASHING . . .

502. TEXTILE COUNTERS—Catalog T-43 describing pick counters for looms, hank counters for spinning, yardage counters for cloth room, etc.—VEEDER-ROOT, INC., Hartford, Conn.

507. SLASHER PRODUCTION—ON-402, new bulletin on slasher production, describing how quality yarn can be improved through the use of this company's variable speed equipment to automatically control and regulate the speed of the main drive, beam drive and stretch control of the slasher.—REEVES PULLEY COMPANY, Columbus, Ind.

510. THE ROMANCE OF PRAIRIE GOLD—Attractive illustrated book which tells the story of corn and the uses of corn products in industry.—CORN PRODUCTS SALES CO., New York, N. Y.

513. SEYCO PENETRANTS FOR YARN CONDITIONING—Folder describing the scientifically formulated Seyco sizing.—SEYDEL-WOOLLEY & CO., Atlanta, Ga.

515. TEXTILE COUNTERS—Catalog No. 50 illustrating and describing complete line of Producti-meter Loom Pick Counters: Hank Counters; Yardage, Electric and Predetermined Counters; Tachometers, etc.—DURANT MANUFACTURING CO., Milwaukee 1, Wisconsin.

518. WEAVE ROOM ACCESSORIES—Weave-room accessories catalog and literature on new plastic bronze bearing sheave, which solves a troublesome sheave room problem.—EMMONS LOOM HARNESS COMPANY, Lawrence, Mass.

517. LOADING SYSTEM—Bulletin 417, on pneumatic loading system for Seco-Lowell slasher size box squeeze rolls, contains installation photo, features, specifications, and prices.—THE FOXBORO COMPANY, Foxboro, Mass.

518. NIAGARA TWIST-SETTER—Folder describing the revolutionary Niagara Twist-Setter which has no moving parts. The yarn is sprayed from all sides to afford maximum economy.—SEYDEL-WOOLLEY & CO., Atlanta, Ga.

519. WOODEN BEAM HEADS, WARPER BEAMS, AND WARPING MACHINERY FOR ALL FIBERS—62-page illustrated booklet descriptive of and giving specifications for the Allen line of beam heads, warper beams, warping machinery, step sections and comb rolls.—ALLEN COMPANY, New Bedford, Mass.

520. PNEUMATIC LOADING SYSTEM—Bulletin 418 contains installation photo, features, specifications and prices for pneumatic loading system for Charles B. Johnson Machine Works slasher squeeze rolls.—THE FOXBORO COMPANY, Foxboro, Mass.

521. STEEL WARP BEAMS—20 page catalog No. 45 illustrating Standard and Special Purpose Warp Beams for the weaving industry, both broadloom and narrow fabrics. Also Textile Machinery Specialties.—MILTON MACHINE WORKS, INC., Milton, Pa.

522. OVERHEAD MOUNTS FOR BIGGER LOOM BEAMS—Folder illustrating and describing new bigger beams can be adapted under all mill conditions. Includes handy Multiplier Table showing increased yarn capacity possible with bigger beams.—WEST POINT FOUNDRY & MACHINE COMPANY, West Point, Ga.

524. JOHNSON WARP SIZER—13 page fully illustrated booklet, describing the 7 cylinder sizer with stretch indicator and finger-tip control of stretch. A point-by-point analysis.—CHARLES B. JOHNSON MACHINE WORKS, Paterson, N. J.

525. GATES LOOM ACCESSORIES—Catalogs MMC-418, MRC-421, MRC-422 describe the advantages of leg straps, harness straps and drop box pickers made from a remarkable new material called Tex-Hide. Catalog MMC-418 describes the advantages of a new "Tractire-Rib" take-up roll covering.—GATES RUBBER CO., Denver 17, Colorado.

526. PARTS CATALOGS FOR WPFAM SLASHERS, SIZE KETTLES AND PUMPS—This 42-page illustrated catalog of parts contains exploded views and part numbers for quick identification.—WEST POINT FOUNDRY & MACHINE COMPANY, West Point, Ga.

529. STRAPPING—Looms and harness strapping comprise line. Full information supplied on request.—TON-TEX CORPORATION, 16 West 61st St., New York 23, N. Y.

530. ROTARY UNIONS—New catalog shows how to cut costs, get better roasting, on can dryers, slashers, calenders, etc. Catalog No. 500 entitled "Where Good Connections Count."—PERFECTING SERVICE COMPANY, 6140 Cortage Grove, Chicago 37, Ill.

531. EVENNESS TESTER—Folder explaining how this Tester takes the guess out of quality control and each processing step from carding through spinning.—USTER CORPORATION, Charlotte, N. C.

DYEING, FINISHING, CLOTH ROOM . . .

532. ALUMINUM IN THE CHEMICAL INDUSTRY—Published by Aluminum Company of America. Seventy-eight pages. Text and illustrations covering adaptability of aluminum and aluminum alloys to chemical industry applications and characteristics governing recommended uses.—ALUMINUM COMPANY OF AMERICA, Pittsburgh, Pa.

533. CONTINUOUS AUTOMATIC EXTRACTING MACHINE—Folder describing the most efficient method of extracting excess liquid from fibrous materials.—C. G. SARGENT'S SONS CORP., Graniteville, Mass.

610. PROCTOR DRYING MACHINERY FOR THE TEXTILE INDUSTRY—Illustrated descriptive catalog on all types of dryers for raw stock, warps, package dyed and automatic skein yarn. Also includes Preboarding and Automatic Boarding Machines for hosiery.—PROCTOR & SCHWARTZ, INC., Philadelphia, Pa.

611. BRUSHING AND SHEARING MACHINES—Illustrated literature on the new Hermas Brushing Machine for use light sheering to heavy dusks; also on Hermas AV Shears.—HERMAS MACHINE CO., Hawthorne, N. J.

612. WET GOODS TRUCK—Illustrated bulletin which describes fully this stainless steel wet goods truck. Complete specifications and information given.—F. BLICKMAN, INC., Weehawken, N. J.

613. RADIANT HEAT IN TEXTILE INDUSTRY—New illustrated book on uses of radiant heat, data on fuel consumption, evaporation, etc.—RED-RAY MFG. CO., New York, N. Y.

614. STRIPS IN ROLLS—Form No. CF-443 illustrated folder showing over 18 colors and roll widths for textile use.—CAMERON MACHINE CO., Brooklyn, New York.

615. ENGINEERING PROPERTIES OF MONEL—Aschnical Bulletin T-5, giving detailed information on strength and ductility, working properties, resistance to various types of corrosion and other data on Monel Metal.—INTERNATIONAL NICKEL CO., INC., New York, N. Y.

617. AUTOMATIC CONTROL SYSTEM FOR CONTINUOUS BLEACHING—Illustrated folder describes the new method of controlling the temperature, pressure, and liquid level in the continuous bleach operation.—TAYLOR INSTRUMENT COMPANIES, Rochester 1, N. Y.

622. FILT-R-STIL—Attractive illustrated booklet describing the FILT-R-STIL method of chemically purifying water.—AMERICAN CYANAMID & CHEMICAL CORP., New York 20, N. Y.

625. BALL BEARING ROLLER TYPE SCRAY—Circular No. 964 describing the scray which is for use in handling heavy and large size rolls of cloth. This is used either in finishing plants or in the cloth room of cotton mills.—BIRCH BROS., INC., Somerville, Mass.

626. GUIDER AND GUIDING EQUIPMENT—This booklet entitled "Mount Hope Precision Guider and Guiding Equipment" describes their latest development in guiding equipment. The new guider is is claimed makes possible automatically controlling the lateral movement of cloth within closer limits than ever before possible.—MOUNT HOPE MACHINERY CO., Taunton, Mass.

627. SINGLE APRON STOCK DRYER—Folder presenting the latest idea in automatic drying which every mill having drying problems can profitably use to meet modern manufacturing conditions.—C. G. SARGENT'S SONS CORP., Graniteville, Mass.

628. STAINLESS STEEL WARE—New data sheets available on this line of stainless steel pails, dippers, buckets and Bleacman-Built fully enclosed stainless steel Dye Box.—F. BLICKMAN, INC., Weehawken, N. J.

630. VAT DYEING OF WOOL—Write for Calco Technical Bulletin No. 737 outlining fundamental dyeing procedures, and explaining new advances in the technology of wool dyeing and finishing.—CALCO CHEMICAL DIVISION, AMERICAN CYANAMID CO., Bound Brook, N. J.

632. LUG STRAP WASHERS—Series I-C Illustrated bulletin detailing right and wrong applications and use of washers.—E. H. JACOBS NORTHERN DIVISION, Danielson, Conn.

633. PRINTING WITH ARIDYE PIGMENT COLORS—Bulletin P-1—describes preparation and application of pigmented water-in-oil emulsions for printing cotton rayon, and other fabrics.—INTERCHEMICAL CORPORATION, TEXTILE COLORS DIVISION, Fair Lawn, N. J.

634. APPLICATION OF INTERCHEM ACETATE DYES—Bulletin LAD-1 describes procedures for dyeing and printing acetate rayon and nylon fabrics with new line of highly dispersed acetate dyes.—INTERCHEMICAL CORPORATION, TEXTILE COLORS DIVISION, Fair Lawn, N. J.

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688. CUTTING MACHINERY FOR THE TEXTILE INDUSTRY—Catalogue describing hand to fully automatic machines which will measure to length, cut and stack many varied materials.—SPALDING MACHINE COMPANY, Inc., 10 East 43rd St., New York, N. Y.

689. TENSITROL WASHER—The "Tensitrol" principle is described as a "variable traction" of all the drive rolls on the fabric, the amount being determined automatically by the behavior of the cloth itself as it travels through the machine." New bulletin explains in text and illustrations this principle. —BOLNEY HUNT MACHINE CO., Orange, Mass.

DYESTUFFS, CHEMICALS, SOAPS . . .

709. THEORETICAL AND APPLIED SILK-SOAKING—Attractive 12-page booklet outlining methods of silk-soaking and outlining investigation on the soaking, back-winding and degumming of silk.—HART PRODUCTS CORP., New York City.

710. HERCULES PINE OILS—Leaflet briefly describing advantages of using this manufacturer's oil in wet-processing of textiles.—HERCULES POWDER COMPANY, Wilmington, Del.

712. VANDERBILT MATERIALS—Available is a 6-page booklet describing non-toxic fungicides and their use in textile operations.—R. T. VANDERBILT CO., INC., New York, N. Y.

713. LIOVATINE ED—Vat dyeing assistant increasing penetration and level dyeings with maximum yield of color.—SANDOZ CHEMICAL WORKS, New York City.

716. AQUAROL AND ARKANSAS PRODUCTS—Bulletins on Aquarol, water repellent finish with method of preparing bath; also on other Arkansas products for cotton, wool, silk and rayon, hosiery processing.—ARKANSAS CO., INC., Newark, N. J.

717. FINISH KB—Finishing compound designed as binder in combination with fillers and stiffening compounds. Avoids dusting, insures draping qualities. —SANDOZ CHEMICAL WORKS, New York.

720. SYNTHETIC FIBERS—Attractive folder briefly describing the company's products used in the manufacture of synthetic fibers.—HERCULES POWDER COMPANY, Wilmington, Del.

725. TEXTILE PROCESSING—Bulletin No. 5, interesting and informative, concerns itself with textile processing with emphasis on synthetic detergent.—ARMOUR & COMPANY, 1355 West 31st St., Chicago, Ill.

736. LEVELENE—Booklet describing use of Levelene for leveling vat and direct colors. Also for stripping down vat colors.—AMERICAN ANILINE PRODUCTS, INC., New York, N. Y.

745. RAPIDASE FOR DESIZING—Bulletin explaining in detail the properties and characteristics of Rapidase.—WALLERSTEIN CO., INC., 180 Madison Avenue, New York 16, N. Y.

742. LUPOMIN G—Pamphlet outlines the application of the quaternary ammonium compound recommended for treating natural and synthetic fibers to give soft hand, lubrication, odorless finish, brighter shades, etc.—JACQUES WOLF & CO., Passaic, N. J.

735. LUPOMIN—Leaflet outlines the advantages of the cation active softener which is suitable for use on cotton, linen, silk, wool, synthetic fibers and mixed fabrics. A small percentage of lupomin gives a supple, smooth hand.—JACQUES WOLF & CO., Passaic, New Jersey.

755. TEXTILE SPECIALTIES—Listing and describing a wide and complete range of specialties manufactured and sold by American Cyanamid Company formulated to the latest advances in textile chemistry.—AMERICAN CYANAMID COMPANY, 30 Rockefeller Plaza, New York 20, N. Y.

762. ONYX TECHNICAL DATA SHEETS—Two new data sheets describing the use, advantages, and applications of Xyno Resins S 60 and Xyno Resin 3363.—ONYX OIL & CHEMICAL COMPANY, Jersey City 2, N. J.

765. HOSIERY FINISHES AND FORMULAE—Attractive new booklet describes the Amalgamated line of hosiery finishes and giving numerous finishing formulas.—AMALGAMATED CHEMICAL CORPORATION, Philadelphia 24, Pa.

766. DU PONT PEROXIDE BLEACHING SYSTEMS—New book illustrating and describing this continuous peroxide bleach system. Layouts and other information included.—E. I. DU PONT DE NEMOURS & CO., ELECTROCHEMICAL DEPT., Wilmington, Dela.

768. TEXTILE CHEMICALS—Buying guide and reference book giving facts about Amalgamated Products, the fabrics on which they give best results, their proper application, and their chemical composition.—AMALGAMATED CHEMICAL CORP., Philadelphia 24, Pa.

769. SURFACE TENSION DEPRESSANT—The Booklet, "Mercerizing and Alkamerce—The Ideal Dry Mercerizing Penetrant," introduces a new product which can be used as a wetting agent; a dye leveling agent, a penetrant in package dyeing.—HART PRODUCTS CORP., New York, N. Y.

771. "STARCH STABILIZER"—Folder on Vanesta, a product used for textile sizing and printing, discussing stabilization and the results obtained. —R. T. VANDERBILT CO., New York 17, N. Y.

772. "STANDARD SILICATE ALKALIES"—Booklet descriptive of silicate and silicated alkalies and their uses. These uses include for silk weighting, in peroxide bleaching, boiling of cotton, textile finishing, etc.—DIAMOND ALKALI COMPANY, Cleveland, Ohio.

773. TECHNICAL CHEMICAL DATA SHEETS—Complete set for dyeing, printing and finishing operations, showing major operations, performances and advantages.—ONYX OIL & CHEMICAL CO., Jersey City 2, N. J.

774. ROYCE TEXTILE CHEMICALS—This booklet briefly describes the leading Royce products for textile processing printing, dyeing and finishing.—ROYCE CHEMICAL COMPANY, Carlton Hill, N. J.

775. CAUSTIC SODA—Bulletin No. 9, an 86-page technical bulletin, is the latest in Solvay's well-known series. The text is profusely illustrated with photographs, tables, graphs and diagrams.—SOLVAY SALES DIVISION, 40 Rector Street, New York 6, New York.

776. SERIZYME—Bulletin describing the properties and characteristics of Serizyme, a standardized liquid proteolytic enzyme preparation which can solubilize various types of protein substances.—WALLERSTEIN COMPANY, INC., 129 Madison Avenue, New York 16, N. Y.

777. HOSIERY DYEING—Catalog on hosiery dyeing machinery, skein dyeing machinery, package dyeing, extracting and drying equipment.—SMITH, DRUM AND CO., Philadelphia 23, Pa.

KNITTING . . .

801. THE WILDMAN SINGLE-HEAD FULL-FASHIONED HOSIERY MACHINE—Literature on request from the WILDMAN MFG. CO., Full-Fashioned Division, Norristown, Pa.

803. THE TUBE-TEX FOR TUBULAR KNIT GOODS—Bulletin describing this modern machine which extracts, processes, dries, conditions and folds in one continuous operation, lowering costs, saving labor, power, space and waste.—H. W. BUTTERWORTH & SONS CO., Philadelphia, Pa.

809. TEXACO IN THE KNITTING INDUSTRY—Folder on knitting mill lubrication.—THE TEXAS CO., New York, N. Y.

810. ALUMINUM BEAMS—Catalog No. 1-21 describes Hayes magnesium and aluminum specialties for the textile industry. Illustrates this company's beams that are one-third the weight of conventional types.—HAYES INDUSTRIES, INC., Jackson, Mich.

811. CIRCULAR KNITTING MACHINES—Interesting, informative and well illustrated is this six-page folder, just released, which describes this company's small diameter circular knitting machine.—H. BRINTON COMPANY, Philadelphia 24, Pa.

815. THE NEW REINER HIGH SPEED TRICOT MACHINE—156" or 84" knitting widths. A richly illustrated catalog describing its many novel features of construction and performance.—ROBERT REINER, INC., Weehawken, N. J.

816. THE NEW REINER KAYLOOM—A combination Knitting Weaving Loom, featured in an illustrated catalog, showing filler attachment and other important points about this machine.—ROBERT REINER, INC., Weehawken, N. J.

817. AUTOMATIC SELECTIVE STRIPPING MACHINE—Descriptive and illustrative folder, entitled "If It's Stripes, Consult Brinton," now available. Important mechanisms involved in this process are described.—H. BRINTON COMPANY, Philadelphia, Pennsylvania.

818. MILTON LIGHT METAL BEAMS FOR EVERY APPLICATION—Catalog 48-A describing Light Metal Tricot Beams made in Standard and Special sizes plus Special Purpose Light Metal Textile Equipment.—MILTON MACHINE WORKS, INC., Milton, Pa.

820. VARIABLE STRIPES AND PLAIDS—Booklet describing Supreme Models SA and SA-ROF Stripers for knitting plaids, checks, "floatless" designs and variable stripes.—SUPREME KNITTING MACHINE CO., INC., Brooklyn 6, N. Y.

822. HIGH SPEED JERSEY CIRCULAR MACHINE—Complete illustrated brochure showing features and highlights of this 100 yard per hour producer. Also available—New Cylinder Chart.—SUPREME KNITTING MACHINE CO., INC., 105 Johnson Ave., New York.

825. THE KIDDE KNITTER—Bulletin describing the newest in Raschel-type warp knitting machines and the higher production rates attained with it.—KIDDE MANUFACTURING CO., INC., Bloomfield, N. J.

SEWING MACHINES . . .

915. THE NEW UNION SPECIAL LOCKSTITCH MACHINE—Information on the new model which cuts production time on sewing operations is contained in Bulletin No. 239.—UNION SPECIAL MACHINE CO., Chicago 10, Ill.

922. LOCKSTITCH INTERMITTANT RUFFLING MACHINE—Folder No. 35c describing Type 23 machine for stitching and ruffling operations on shirts, dresses, curtains, etc.—WILLCOX & GIBBS SEWING MACHINE CO., New York, N. Y.

926. FLAT BED SEAMING MACHINE—Full information contained in bulletin No. 93C on Type 1101 "W & G" Flat Bed Seaming Machine.—WILLCOX & GIBBS SEWING MACHINE CO., 214 West 39th St., New York 18, N. Y.

MATERIALS HANDLING . . .

1001. HOW TO DETERMINE WHERE OVERHEAD MATERIALS HANDLING EQUIPMENT CAN BE USED PROFITABLY—Profusely illustrated. Gives clear, concise understanding of materials handling. Helps you to determine where and what equipment might be used to speed production and increase profits.—CLEVELAND TRAMRAIL DIV., Wickliffe, Ohio.

1002. CATALOG NO. 22—An attractive illustrated catalog describing in detail the Shamrock shipping containers and the new canvas trucks for textile use.—MERSE INC., Madison, Ind.

1005. CASTERS AND WHEELS—192 pages, describing casters and wheels suitable for all types of industrial applications. Every mechanical engineer and purchasing agent should have this.—DARNELL CORP., LTD., Long Beach, Calif.

1006. BASKETS, HAMPERS & TRUCKS—This 96-page catalog is profusely illustrated and contains complete description on the Dandux line, especially designed for the textile industry.—C. B. DANIELS, INC., Daniels, Md.

1009. LANE CANVAS BASKETS—16 page illustrated booklet describing the Lane line of canvas baskets for textile use.—W. T. LANE & BROTHERS, Poughkeepsie, N. Y.

1047. OVERHEAD HANDLING EQUIPMENT—56 pages of illustrations showing successful applications of monorail systems to meet every kind of handling problem.—THE AMERICAN MONORAIL CO., Cleveland, Ohio.

1008. CASTERS AND WHEELS—An illustrated booklet with complete specifications showing a complete assortment of Colson Textile Casters.—THE COLSON CORP., Elyria, Ohio.

1009. CANVAS PRODUCTS—A complete listing with illustrations of Dandux Canvas Products. For easy fingertip reference and handy file also. Brief but factual information.—C. B. DANIELS, INC., Daniels, Md.

1025. CAB-OPERATED AND FLOOR-OPERATED ELECTRIC HOISTS—Bulletin No. 127 describing and illustrating electric hoists of various types and capacities.—SHEPARD NILES CRANE & HOIST CORP., Montour Falls, N. Y.

1027. SINGLE BEAM CRANES—Bulletin No. 128 describing and illustrating the single beam type of overhead traveling cranes.—SHEPARD NILES CRANE AND HOIST CORP., Montour Falls, N. Y.

1030. C-D HOLLOW WARE—This 36-page catalog, E-11, profusely illustrated in color, shows Continental-Diamond's line of boxes, trunks, cans, barrels, baskets and trays. Complete description and specifications are given on each item.—CONTINENTAL-DIAMOND FIBRE CO., Newark 38, Del.

MISCELLANEOUS . . .

1101. AUTOMATIC BOBBIN REFINISHER—A descriptive bulletin illustrating and describing method of refinishing throwing bobbins on a production schedule.—J. M. NASH COMPANY, 2300 N. 30th St., Milwaukee, Wis.

1102. BALING PRESSES—An illustrated folder describing this manufacturer's complete line of balers for all materials. Both Downstroke and Upstroke models.—ECONOMY BALER CO., Ann Arbor, Mich.

1103. UNBRAKO SCREWS—Illustrated 16-page booklet No. 570 gives data on Unbrako hollow set screws, with knurled point, self-locking feature. Includes miscellaneous screw and locking pat data.—STANDARD PRESSED STEEL CO., Jenkintown, Pa.

1104. INTERPRETATION OF ANALYSIS—In compiling this brief collection of terms which most frequently appear in analysis of surface active chemicals, an attempt has been made to explain as clearly as possible the meaning of these terms to those who have had little or no chemical training. —NOPCO CHEMICAL CO., Harrison, N. J.

1107. AUTOMATIC QUILL POLISHER—Bulletin describes production machine for refinishing loom bobbins. Tells how quills can be kept in perfect condition at a minimum labor cost.—J. M. NASH CO., 2300 N. 30th Street, Milwaukee 10, Wis.

1108. FABRICATION OF U. S. STAINLESS STEELS—136-page book covering use of stainless steel in textile equipment from cutting to cleaning. Includes corrosion-resistance table for chemicals.—CARNEGIE-ILLINOIS STEEL CORPORATION, Pittsburgh, Penn.

1111. BRUSHES—A 24-page booklet is now available which describes and illustrates this manufacturer's line of brushes for the textile industry.—GASTONIA BRUSH COMPANY, Gastonia, N. C.

1114. SCOTCH TEXTILE TAPES—Four page brochure containing photographs and descriptive information on the many uses for pressure sensitive Scotch tapes in the textile industry.—MINNESOTA MINING & MFG. CO., St. Paul, Minn.

TEXTILE INDUSTRIES, 806 Peachtree St., N.E., Atlanta, Ga.

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Personal Notes

(*Continued from page* 199)

Ben R. Rudisill, treasurer, has succeeded his father, the late Carl A. Rudisill, as president of Carlton Yarn Mills Inc., Cherryville, N. C.

F. F. Helliwell, superintendent of the Stormont Mill, Canadian Cottons, Ltd., Cornwall Ontario, has been elected president of the Cornwall & District Textile Association. He succeeds **J. A. Dixon,** assistant to the president of Courtauld's (Canada), Ltd.

True Cornell, overseer of spinning at the former Esmond Mills, Dover, N. H., is now overseer of cotton carding and spinning at W. S. Libbey Co. Lewiston, Me.

John McDermott, formerly in the card room of the Arlington Mills, Lawrence, Mass., has become overseer of carding at the Abbott Worsted Company's plant in Forge Village, Mass.

Arthur J. Heinzmann, former assistant manager of the rayon division of Pacific Mills, has accepted the position as manager of the Hull Dye Works, a subsidiary of the Housatonic Dyeing and Printing Co., Derby, Conn.

Ernest A. Eckert, former superintendent, has become resident manager of the Puritan Mills of the American Woolen Co., Plymouth, Mass. Mr. Eckert succeeds **Morris G. Einstein,** who has joined Yorkshire Worsted Mills, Lenni Mills, Pa., as general manager.

J. Craig Smith, executive vice-president of Avondale Mills, was elected chairman of the board of the Carded Yarn Association, succeeding **E. N. Brower** of Rockfish-Mebane Yarn Mills. Mr. Brower became vice-chairman. **Owen Fitzsimmons,** Charlotte, N. C., was re-elected president and treasurer.

Obituaries

Charles A. Milliken, 69, formerly associated with Mount Hope Finishing Co. and Dighton Mfg. Co., both in North Dighton, Mass., died at the Mount Hope Hospital following a short illness.

Lawrence J. Parrish, 56, vice-president in charge of manufacturing for Cluett, Peabody & Co., Inc., passed away on October 2 while at the Milwaukee (Wis.) Hospital after a brief illness.

Arthur Johnston, 52, general sales manager of Dominion Textile Co., Ltd., Montreal, Que., Canada died last October.

Emil G. Kattermann, 80, president of the Swiss Knitting Co., died at his home in Dover, N. J., on October 20.

James Balloch, Sr., 52, assistant manager of the Renfrew Bleachery, Travelers Rest, S. C., passed away at his home last October following a serious illness.

Dan Coffey, associated with Propper McCallum and at one time with General Hosiery Co., Marionette Hosiery Mills and Signature Hosiery Co., died of a heart attack on October 3 at his home in Philadelphia, Pa. Mr. Coffey was in his sixties.

Arnold Friedlander, 54, vice-president of the Phoenix Hosiery Co., Milwaukee, Wis., passed away on October 7 as the result of a cerebral hemorrhage while at the Stanford University Hospital, San Francisco, Cal.

John M. Botts, almost 77, president of Hollywood Hosiery, Inc., and senior partner of Harrington & Waring, died October 21 from injuries received in an automobile accident the day before. Mr. Botts was in the St. Joseph's Hospital, Reading, Pa., at the time of his death.

R. Horace Johnston, 59, head of the Johnston group of manufacturing plants, died suddenly on October 22 of a heart attack. The Johnston group includes Highland Park Mfg. Co. of Charlotte, N. C., and Rock Hill, S. C.

Zaccheus Franklin Wright, 80, president of Newberry (S. C.) Cotton Mills for more than 40 years, and until only a few years ago resigned, died last October following a long illness.

Brig. Gen. Maurice G. Gregory, 68, retired Quartermaster of the U. S. Marine Corps Depot of Supplies in Philadelphia, Pa., died at the University of Pennsylvania Hospital last October.

Charles S. Traer, 58, chairman of the board of Acme Steel Co., Chicago, Ill., passed away suddenly on October 25 of a heart attack.

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SUPPLIERS' NEWS

WHAT THEY ARE DOING

Laurie E. Whittelsey, formerly associated with Bibb Manufacturing Company and Southern Dyestuff Corporation, is now manufacturers' agent and jobber, handling accounts in the Southeast. Mr. Whittelsey represents the following organizations: **Proctor and Gamble,** textile specialty department; **Crossett Chemical Company;** and **McKiernan-Terry Corporation,** manufacturers of finishing machinery. In addition to representing the foregoing concerns, he will also handle a complete line of dyestuffs and auxiliary products. Mr. Whittelsey's address is P. O. Box 793, Macon, Ga.

Mr. Whittelsey

L. Sonneborn Sons, Inc., has relocated its executive and general offices, white oil and petrolatum, Amalie motor oil, textile chemicals, and export divisions at their new address of 300 Fourth Ave., New York 10, N. Y. The building products division will remain at 80 Eighth Ave., New York 11, N. Y.

H. S. Parker, Jr., has resigned as sales representative of **F. L. Regnery Corp.,** Chicago, Ill., and has joined his father in the cloth brokers firm of H. S. Parker Co., New York, N. Y. Mr. Parker will be replaced in South Carolina by R. M. Turner and in North Carolina by Clarence S. Sikes, in the sale of aluminum spindle adapters for Regnery.

James C. Jacobs, who is associated with **Keever Starch Company** in a sales capacity, has established permanent headquartetrs at 406 Howard-Allen Apts., Spartanburg, S. C.

Onyx Oil & Chemical Co., Jersey City, N. J., has moved its New Eng-

AS A MAN BENDS . . . SO BENDS the new

LAWLOR Model 12-W

SCRUBBER, WAX-POLISHER

The adjustable handle makes it possible to clean under counters, machines, desks, lockers, etc. Operator can raise or lower it to any angle within an 80 degree arc.
Equipped with set of 4 sectional brushes or solid round brush. AC or DC. Rubber tired ball-bearing wheels. Comes with 50 feet of rubber covered cable.

LAWLOR Model 20-D

It's just the machine for large areas. It scrubs and squeegees floors. One operator does both jobs with this remarkable two-in-one machine. Clean water is fed from one tank upon the soaped floor, the 19" diameter revolving brush scrubs it thoroughly. Then a rubber squeegee mops up the dirty water which is vacuum pumped into a second tank.
The Model 20-D is only 22" wide and can be operated around machines and equipment. AC or DC.

MOP WRINGERS

Quality built of all steel with perforated rolls. Foot lever operation. Made for one or two pails.

MOPPING TANKS

Made of heavy galvanized steel with welded seams. Two compartments, each with shut-off. Foot-pressure wringers. 30 or 60-gallon capacity.

All Lawlor Equipment is sold and serviced by local Janitor Supply Houses

Write for Catalog of complete Lawlor line

S. C. LAWLOR CO.

Makers of Quality Floor Equipment for 50 Years
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49 Foundry Street

WAKEFIELD, MASSACHUSETTS

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We manufacture two complete lines of self-lubricating bearings for the textile field. The first, and lower cost, are made of northern Rock Maple, fully impregnated with the best known lubricants. Our leading products in this field are:

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2. Parallel blocks
3. Whip roll bearings
4. Crank arms
5. Tape tension pulley bearings

Our second type of bearing is made from powdered metal, as follows:

1. Porous Metal self-lubricating bearings, in many different alloys and densities
2. Non-corrosion nickel-copper bearings for bleacheries and dye houses
3. Iron and steel machine parts
4. Gears

We are regular suppliers to most of the leading textile machine manufacturers.

•

SALES OFFICES

Chicago, Illinois — Detroit, Michigan

Cleveland, Ohio

Ralph Gossett, Greenville, S. C. — Belton C. Plowden, Griffin, Ga.

land office from Providence, R. I., to 80 Federal Street, Boston, Mass. Philip E. McLean, New England sales manager, will be in charge of the Boston office.

The Filatex Corporation, a wholly-owned subsidiary, has become the **Filatex Division of American Viscose Corporation,** the parent company. Filatex makes a brand of elastic yarn under that name.

The new manufacturing plant of **Willcox & Gibbs Sewing Machine Co.** at Nyack, N. Y., was formally opened last September 17.

The Dexter Chemical Corp., New York, N. Y., has announced that M. Leonard Slesinger, former technical sales representative in North and

Mr. Slesinger

South Carolina, has been made southern sales manager of the company's textile chemical division, with headquarters in Charlotte, N. C.

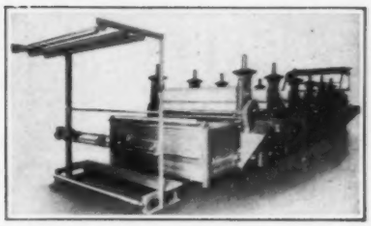
Dr. L. P. Moore, former European technical representative, has been appointed manager of the new products development department of **American Cyanamid Co.,** New York, N. Y. Dr. E. W. Cook has replaced Dr. Moore in his former position.

The Kaumagraph Company, Wilmington, Del., has announced that its newly established associate plant in Paris, France, is now in operation, and has produced its first Kaumagraph dry transfers.

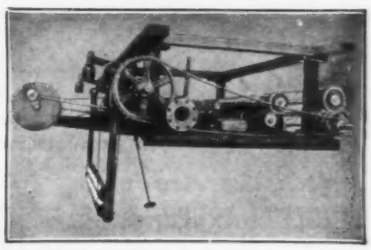
Ralph D. Buck has been appointed manager of the industrial chemical sales department of the **Frank G. Fanning Co.**

S. W. Porges, former vice-president, sales manager and a director of the Kaumagraph Co., has joined the sales staff of the **Norwich (N. Y.) Knitting Co.**

Morningstar, Nicol, Inc., New York, has been appointed sales agent for the Houlton and Mars Hill, Maine,



7 Tank Stainless Steel Open Width Machine for Scouring, Crabbing, Dyeing and Open Soaping, Pressure applied by air to rubber squeeze rolls. Drive by D. C. motors controlled by rheostats actuated by compensating rolls to give uniform and desired tension. Used on Cottons, Rayon Blends, Gabardines, Worsteds and Woolens, and with modifications on pile fabrics.

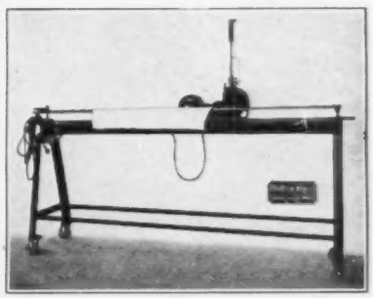


Heavy Duty All Ball Bearing

CLOTH OPENING and FOLDING MACHINE

with Vacuum Extractor

All Drives by Cut Gears or Roller Chain. Drive by Built-in Motor, for opening and extracting woolens, worsteds, plushes, cottons and rayons. Excellent extraction.



Motor driven Railway Sewing Machine fitted with "Coronation" Chain Stitch Head. Also made with Merrow Head.

Single-Bar Curved Rubber Expander with increased thickness of rubber giving longer life and better stretch, and fitted with trouble-proof bushings. Also made with 3 Bars.

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***Complete* Service for a SINGLE CHARGE means**

Pick-up and delivery in all cities and principal towns... Fast, uninterrupted rail or air service... **Automatic** valuation coverage up to $50 or 50¢ per pound... **Two** receipts — one to the shipper, the other from the consignee... **and many other advantages it will pay you to investigate.**

RAILWAY EXPRESS AGENCY

NATION-WIDE RAIL-AIR SERVICE

TEPCO

Acetic Acid

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Products of Destructive Distillation of Hardwood

— Produced by —

Tennessee Products & Chemical Corp.

General Offices: Nashville, Tennessee
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SARGENT'S MULTIPLEX **BURR PICKERS**

Picks, Burrs, Cleans the Wool Lap on BOTH SIDES

SARGENT pioneered the Burr Picker and built the first machine in 1860. Modern Multiplex Burr Pickers, by SARGENT, perform with the highest efficiency obtainable today in doser picking, without loss of fiber, and with least waste.

These machines are especially effective for burr waste, card waste, and burry or seedy wool prior to carding. They have been successfully used in some instances for the burring of greasy mohair matchings. Easy adjustment of the rolls permits accommodation of various types of stock.

All high speed moving parts are mounted on ball bearings. SARGENT BURR PICKERS are made in two widths, 36 in. and 48 in., with the latter having a capacity of 400 to 450 lbs. of wool or waste per hour.

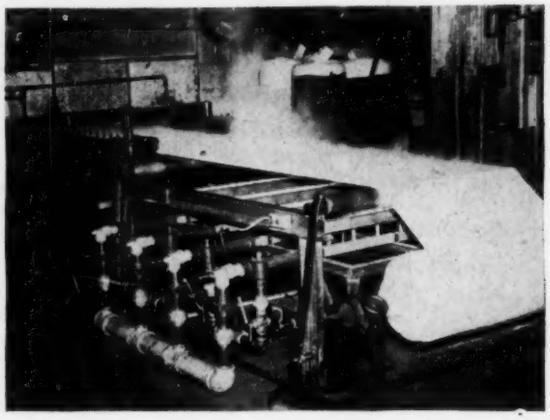
SARGENT'S MULTIPLEX BURR PICKING is a 4-POINT CLEANING PROCESS:

1. The feed rolls and main cylinder picks and opens the wool, and removes chives, straw, other waste matter.
2. Air currents from the exhaust fan removes light dust and dirt.
3. The wool, in open and lofty condition, is delivered to the first burr cylinder which exposes the burrs and waste. A high speed guard removes and throws clear the burrs and waste on the upper side of the wool lap.
4. The second burr cylinder guard picks and cleans the opposite or under side of the wool lap.

Write us for complete information

C. G. SARGENT'S SONS CORPORATION

GRANITEVILLE, MASSACHUSETTS, U.S.A.



RED-RAY BURNERS

installed ahead of enclosure on tenter frame. Preheating and partial drying greatly increases capacity of frame.

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RED-RAY MANUFACTURING COMPANY, INC.

455 W. 45TH STREET — NEW YORK 19, N. Y.

factories of **New England Starch Co.** This combines the sales of the New England Starch Company's plants with the Aroostook Potato Products Co., a subsidiary of Morningstar.

Fred G. LaPiana, former head of the Providence, R. I., textile laboratory of **Stein, Hall & Co., Inc.,** has

Mr. LaPiana

been elected a director of textile research.

Harris Research Laboratories, Washington, D. C., have announced the following appointments: Dr. Alfred E. Brown has been made assistant director of research, and Dr. Anthony M. Schwartz is manager of the new industrial chemicals division.

Walter A. Spencer has been appointed midwestern sales representative for **Arnold, Hoffman & Co., Inc.,**

Mr. Spencer

Providence, Rhode Island, operating from the Cincinnati sales office and covering the states of Ohio, Michigan, Kentucky, Indiana and Illinois.

Oliver D. Landis, Inc., Charlotte, N. C., has become exclusive agent in the Carolinas, Virginia, and Georgia territory for **Arthur S. Brown Mfg. Co.,** Tilton, N. H., manufacturers of woven endless belts. The Landis firm has also been made exclusive

TON TEX
Reg. U.S. Pat. Off.

GENUINE TON-TEX

LOOM HARNESS STRAPPING

Operates Better — Lasts Longer

Genuine Ton-Tex is made of plies of fine quality cotton fabric welded together. Balanced construction. Strong, flexible, absorbs shock easily. Operates at low maintenance cost.

For the Best in Strapping — Specify Ton-Tex.

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GREENSBORO, N. C.
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122 PEARL ST.

Speed Up Your Old Equipment with New Load-Floating Colson Casters

Rolling equipment that doesn't roll easily reduces efficiency and profits in your mill. There are 1458 standard Colson casters—many designed especially for Textile mills. They roll easily over all floors, swivel freely, are rust-resistant. Many models have thread guards. Colson also manufactures a wide range of trucks for the Textile Industry—hand trucks, platform trucks, box trucks, drum and barrel trucks and special devices. Write us or consult your phone book for the local Colson office.

Model 3-427-16 with thread guards, designed especially for the Textile Industry.

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THE COLSON CORPORATION
ELYRIA, OHIO
CASTERS • • LIFT JACK SYSTEMS • • INDUSTRIAL TRUCKS

agent in the Carolinas and Virginia for the **Benjamin Booth Co.**, Philadelphia, Pa., card clothing.

Paul H. Johnson, former southeastern representative of Hayes Industries, Inc., Jackson, Miss., has become associated with the **Briggs-Shaffner Co.**, Winston-Salem, N. C., Mr. Johnson will be concerned with the application of light metals in the textile industry.

Construction on additional facilities for the weaving laboratory has been started by the **Du Pont Company's** Rayon Department at Newport, Del.

Herman Jones has joined **Saco-Lowell Shops** as selling agent for the Atlanta, Ga. office. He brings with him a background of practical mill experience, machine maintenance, and is known to be a specialist in mill engineering and organization work. Mr. Jones replaces H. M. Walsh, who has been transferred to the Charlotte, N. C., office.

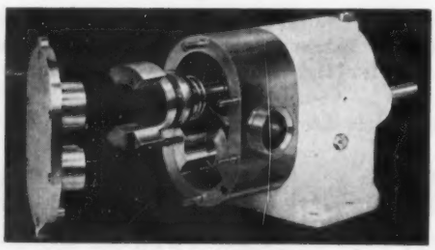
William H. Curtiss, Jr., former administrative assistant to the president, has been made advertising and merchandising manager of the textile products division of **Owens-Corning Fiberglas Corp.**, Toledo, Ohio. Mr. Curtiss will make his headquarters in New York City.

The Hemphill Company, New York, N. Y., has announced that it will henceforth permanently exhibit its Banner machines in the Empire State Building sales offices, a departure from its previous policy.

Boconize, produced by **Bocon Chemical Corp.**, has been awarded

The WATEROUS Stainless Pump Gives LONG LIFE . . .

PATENTS PENDING



and DEPENDABLE OPERATION

For the manufacturer of textiles and chemicals, the WATEROUS is your answer for tough pumping jobs.
One-piece rotor and shaft eliminates threads in the liquid end. Wetted parts of Type 316 stainless steel reduce corrosion and wear.

Controlled pump clearances assure positive product flow. No internal metal contact or friction between rotors and housing; flow settings remain constant.

Non-rotating seal with seal springs located outside of pumping chamber practically eliminate agitation and leaks. Maintenance reduced to a minimum.

Capacities 1 to 125 gallons per minute; speeds 50 to 600 RPM; pipe connections 1" to 2½".

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Waterous DEPENDABLE PUMPS SINCE 1886

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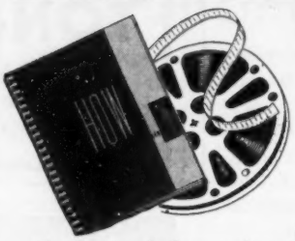
80 EAST FILLMORE AVE.
ST. PAUL 1, MINNESOTA

"TEXTILES UNLIMITED"



PRESENTS

over 40 ways to improve quality and cut deep into manufacturing costs

Before you modernize, get all the facts you need... the latest information on many new methods and processes. Arrange NOW to see "Textiles Unlimited", General Electric's new 30-minute, full-color, sound movie on textile mill modernization. You will also receive a 100-page reference manual, "How Textile Mills Are Modernizing." It's packed with cost-cutting, quality-improving ideas you'll want! Contact your nearest General Electric office today. *Apparatus Dept., General Electric Company, Schenectady 5, N. Y.*

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GENERAL ELECTRIC

654-9

J. E. SIRRINE CO.
GREENVILLE • SOUTH CAROLINA

Engineers

TEXTILE MILLS • RAYON PLANTS • KNITTING MILLS • DYE HOUSES
BLEACHERIES • STEAM UTILIZATION • STEAM POWER PLANTS
WATER • WASTE DISPOSAL • APPRAISALS • PLANS • REPORTS

Swatch-Cutting Pinking Machines

ALL SIZES and TYPES
Hand and Power
Write Today for Catalogues and Full Information

CHANDLER MACHINE CO.
30 West St. **Ayer, Mass.**

the Good Housekeeping Seal of Approval.

Edward S. Malley has become associated with the **Standard Mill Supply Co.**, Providence, R. I., as a traveling sales engineer covering part of the New England territory.

E. F. Houghton & Co., Philadelphia, Pa., has announced the following changes in the eastern sales division: The division itself has been divided: Eastern Sales North, including New England and New York State; and Eastern Sales South, including Pennsylvania, New Jersey and Delaware. Orum R. Kerst will head the north section, and J. R. Clendenning will take over the south. A. C. Smith, former assistant to the eastern sales manager, is the new sales co-ordinator.

Charles A. Miller, formerly in the air conditioning department of the J. E. Sirrine Co., Greenville, S. C., has become president of **Engineered Temperature, Inc.**, Atlanta, Ga. John T. Mason, also formerly associated with the Sirrine company in the air conditioning department, is vice-president of Engineered Temperature, Inc.

Synthane Corp. of Oaks, Pa., has transferred Edward W. Wilson from its Chicago office staff to the sales department as a direct sales representative, operating from the Milwaukee, Wis., office.

Harry Sankey, formerly associated with American Aniline Products, has joined the **Woonsocket (R.I.) Color & Chemical Co.**, and will handle sales to rayon and cotton accounts in the New England area.

John E. MacConville has been made industrial sales manager of the Atlanta, Ga., branch office of the Brown Instrument division of **Minneapolis-Honeywell Regulator Co.** Mr. MacConville will also supervise sales activities out of the company's Birmingham, Jacksonville, and Knoxville offices. Charles E. Sharp succeeds J. A. Robinson as industrial sales manager in Chicago for Brown. Mr. Robinson is now regional industrial sales manager for the Midwest and all western and Pacific Coast areas.

The formal opening of **Link-Belt Company's** Houston, Tex., one-story manufacturing plant took place in September. Allan Craig, formerly at the Atlanta plant, is general manager of the southwestern division.

To provide for expanding business, Robert Reiner, Inc., Weehawken, N. J., has acquired the building shown above, located at 136-142 Thirty-Second St., Union City N. J. This will afford floor space for the assembly of Reiner Tricot, Simplex and Raschel machines.

Carroll B. Little, former assistant manager of the Bemiston, Ala., plant of Bemis Bro. Bag Co., has joined **Robert and Company Associates, Inc.**, Atlanta, Ga., as a member of their engineering staff.

The **A & W Machine Co.**, Charlton City, Mass., has announced the appointment of the following representatives: H. E. Linderson, salesman in the New England States, New York State and Middle-West; Edgar E. George, salesman in the southeastern section; and Theodore Huston, salesman in Pennsylvania, New Jersey, Maryland, and Delaware.

*Series 12 of typical *"H-W" CONDITIONER applications:*

"H-W" CONDITIONERS

in use by

BLOOMSBURG MILLS, INC.

The satisfactory performance of "H-W" CONDITIONERS in use by Bloomsburg Mills, Inc., in their Bloomsburg, Pa., and Lock Haven, Pa., mills has resulted in the installation of three "H-W" CONDITIONERS in their new Fernbrook Park Mill at Dallas, Pa.

View of Fernbrook Park Mill at Dallas, Pa.

*Trade-Mark Reg. U. S. Pat. Off.

Full Particulars in Bulletin UC-3, upon request.

The Industrial Dryer Corporation
STAMFORD, CONN.

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Rates are net, payable in advance each month. Page is 3 columns, 10 inches deep—30 inches to page. Space measured by even inch vertically by 1, 2 or 3 columns in width. Column width 2¼ inches.
Transient rate for display classified, $8.00 per inch.
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12 inches	$7.50	48 inches	$6.75
24 inches	7.25	96 inches	6.50
36 inches	7.00	180 inches	6.00

POSITION WANTED: 10c per word per insertion; minimum charge $2.00. Cash with order. Box number address care of TEXTILE INDUSTRIES, 806 Peachtree St., N. E., Atlanta 5, Ga., count as eight words. Advertisements for help wanted, equipment for sale, for rent or wanted, and professional cards are accepted at display rates only.

POSITIONS OPEN—MEN WANTED: We can place production manager rayon-cotton mill; industrial engineer; chemical salesman; overseers, second hands and section hands worsted spinning and twisting; overseers rayon-cotton weaving; boss dyers cotton yarn and piece goods; overseer cotton carding, combed yarns; silk loom fixers; sewing machine mechanic; second hands rayon weaving; overseer rayon-cotton goods finishing for northern, southern and foreign mills; assistant overseer cotton carding; hosiery mill superintendents, overseers and fixers. Superintendents and warp preparation foremen for filament rayon mills, northern and southern plants.

We invite correspondence with executives seeking positions and employers seeking new personnel.

CHARLES P. RAYMOND SERVICE, INC.

294 WASHINGTON STREET Phone: Liberty 2-6547 BOSTON 8, MASS.

Over 50 years of Confidential Employment Service for men seeking positions and employers seeking men.

FOR SALE

1—9 Color Rice Barton Printing Machine

2—90" Stainless Steel Jigs
1—10 Fan Loop Dryer, 40' x 92" revolving sticks.

CADGENE MACHINERY COMPANY
P. O. Box 1206
PATERSON NEW JERSEY

OFFERED FOR IMMEDIATE DELIVERY

1—# 102 Foster Winder, Serial # 1511, paper cones.
3—# 101 Foster Winders, double motor, paper cones.
50—Whitin Cards 40", 27" doffers, 12" coilers.
2—9 x 4½ Saco-Lowell Slubbers, 88 spindles each, J-1 long draft.
2000—12" x 36" Fibre Roving Cans.

WANTED: Any quantity 40" Cards, all makes.

WILSON LEWITH MACHINERY CORP.

Post Office Box 4100 Warehouse: Wilkinson Blvd.
CHARLOTTE, N. C. *Phone 4-2403* Behind Barbeque Lodge

WANTED

Assistant to General Manager chain of mills. Wonderful opportunity. College graduate around 35 preferred. Must have practical mill experience. Reply to Box No. 324, TEXTILE INDUSTRIES, 806 Peachtree Street, N. E., Atlanta 5, Georgia.

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As overseer of woolen spinning. 15 years' experience on both mules and frames, spinning all types of yarns. Best of references. Reply to Box 334, TEXTILE INDUSTRIES, 806 Peachtree Street, N.E., Atlanta 5, Ga.

Opening for young man as bookkeeper in cotton textile mill located in North Carolina. Reply to Box 338, TEXTILE INDUSTRIES, 806 Peachtree St., N.E., Atlanta, Georgia.

PAUL B. EATON

Patent Attorney
1208 Johnston Bldg.,
Charlotte, N. C.
753 Munsey Bldg.
Washington, D. C.

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Distributor and manufacturer having sales organization actively covering entire southern textile industry desires an additional line of equipment or material to sell in that area. Reply to Box 335, TEXTILE INDUSTRIES, 806 Peachtree St., N.E., Atlanta 5, Ga.

POSITION WANTED

As Superintendent. Capable and efficient textile graduate, with wide experience and successful record of getting results. Both cotton and rayon and blends. Good manager, best of references. Reply to Box 339, TEXTILE INDUSTRIES, 806 Peachtree St., N.E., Atlanta, Ga.

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Specializing in the Purchase and Sale of Used Textile Preparatory and Finishing Machinery.
Tel. 8-5616
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Manager or General Superintendent available. Full and complete knowledge in the manufacture of Filament, Spun Rayon Blends and also cotton fabrics of a broad nature including carding, spinning, designing, weaving and finishing. Have excellent record and references as to ability and character. American, speaks Spanish. Reply to Box 336, TEXTILE INDUSTRIES, 806 Peachtree Street, N.E., Atlanta 5, Ga.

Opening for Superintendent of small colored goods spinning and weaving mill located in South. State experience, salary desired, references, etc. Reply to Box No. 342, TEXTILE INDUSTRIES, 806 Peachtree Street, N.E., Atlanta, Georgia.

DYESTUFFS

Will buy your surplus and obsolete dyes and chemicals for cash.
NEW ENGLAND PRODUCTS CO.
91 Oliver St. Boston, Mass.

WANTED

Night superintendent, small colored goods mill located in North Carolina. Reply to Box 337, TEXTILE INDUSTRIES, 806 Peachtree St., N.E., Atlanta, Ga.

PATENTS

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Information concerning procedure upon request

B. P. FISHBURNE
Registered Patent Attorney
702T McLachlen Building, Washington 1, D. C.

Manager-superintendent of yarn or weaving mill, cotton, rayon, blends and wool on the cotton system wants position with progressive firm, good background and references, successful experience, thirty-eight years of age, employed, desires change for advancement. Reply to Box No. 347, TEXTILE INDUSTRIES, 806 Peachtree Street, N.E., Atlanta 5, Ga.

FOR SALE

9—1929 H & B One Process Pickers
4—8 x 3½—1929 Saco-Lowell Model D Long Draft Slubbers

BEMIS BRO. BAG COMPANY
Talladega, Alabama

SALARIED POSITIONS. $3600 to $30,000.

This confidential service for outstanding men who desire a new connection, will develop and conduct preliminary negotiations without risk to present position. Send name and address for details. Tomsett Associates, 1203-1 Berger Bldg., Pittsburgh 19, Pa.

ASSISTANT SUPERINTENDENT

WANTS POSITION WITH PROGRESSIVE FIRM
Excellent background. Best of references.

Years of successful experience in cotton and worsted. Conversant in all phases of manufacturing from the raw fibre to finished fabric.

Reply to Box 343, TEXTILE INDUSTRIES
806 Peachtree Street, N.E., Atlanta 5, Georgia

POSITION WANTED

Overseer of dyeing wishing change accept position with reliable company. Thoroughly experienced all types of dyes, skein, package, rawstock, piece, long chain. 41 years, 24 years with one firm custom dyers. Reply to Box No. 344, TEXTILE INDUSTRIES, 806 Peachtree St., N.E., Atlanta, Georgia.

HELP WANTED

PRODUCTION AND DESIGN MAN
We are looking for a man that knows some designing and is able to follow production through the mill by sets. Should have had experience in the plant and know cloth analysis. Reply to: Box 345, TEXTILE INDUSTRIES, 806 Peachtree St., N.E., Atlanta 5, Ga.

MACHINERY SALESMEN WANTED

Man with thorough knowledge of cotton manufacturing to solicit business for cotton textile machinery in Southern states. State age, qualifications, references and salary expected. Replies confidential. Reply to Box No. 346, TEXTILE INDUSTRIES, 806 Peachtree St., Atlanta 5, Ga.

POSITION WANTED

Overseer carding, 31 years old, married, reliable. High school and I.C.S. graduate. Vocational training. 15 years' experience as fixer, overhauler, card clothes and second hand on white, colored and rayon blends. Gladly furnish references. Reply to Box No. 348, TEXTILE INDUSTRIES, 806 Peachtree Street, N.E., Atlanta 5, Ga.

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NEW — USED — REBUILT

Scott & Williams, Banner, Brinton, Reading, Lieberknecht—all types for full fashioned, seamless and circular mills. A complete line of dyeing and finishing equipment.

MORRIS SPEIZMAN CO.

INCORPORATED

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FOR SALE

1—D & F 36 roll Double Acting Napper, motor driven
1—Sargent 36" Multiplex Burr Picker
1—Whitin Long Chain Quiller, 378 spindles
1—D & F 110" Pin Type Dressing Reel, complete with Beamer, Hack Stand, Neck Reed, Compressor and Jack Spool Stand.
6—E & B (Carpenter) Skein Reels
2—Toledo 62½ lbs. capacity Lap Scales
2—Foster Model No. 102 Winders, 100 spindles ea., 7" traverse
6—Entwistle 30" Traverse Baling Heads.
2—Cocker High Speed Beam Warpers with 800 end Magazine Cone Creels.

We solicit your inquiries on thoroughly rebuilt Universal and Foster Winders.

STANDARD MILL SUPPLY

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NEW YORK, N. Y.

1064 Main Street
PAWTUCKET, R. I.

513 So. Tryon St.
CHARLOTTE, N. C.

WANTED—TEXTILE GRADUATE

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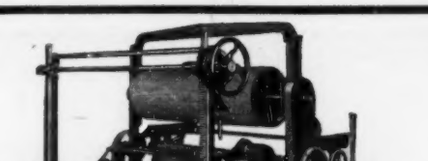

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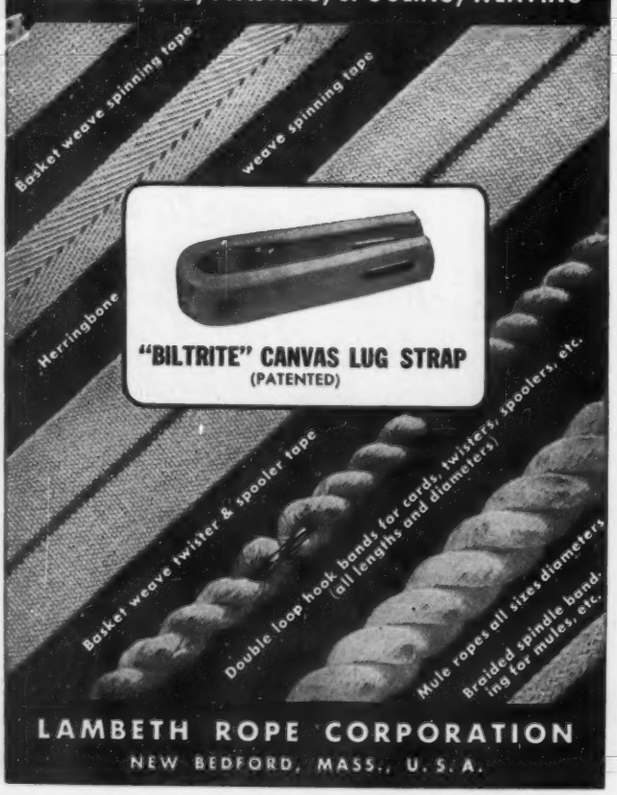
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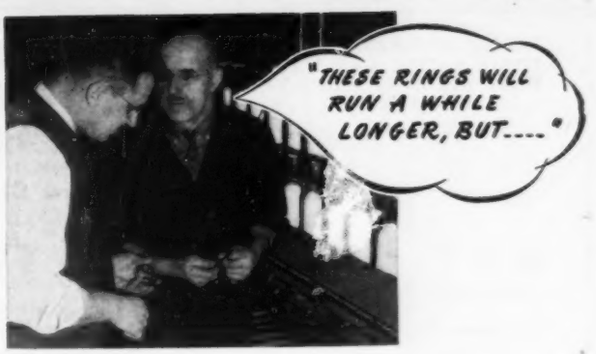

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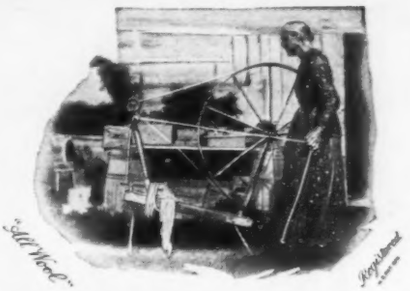

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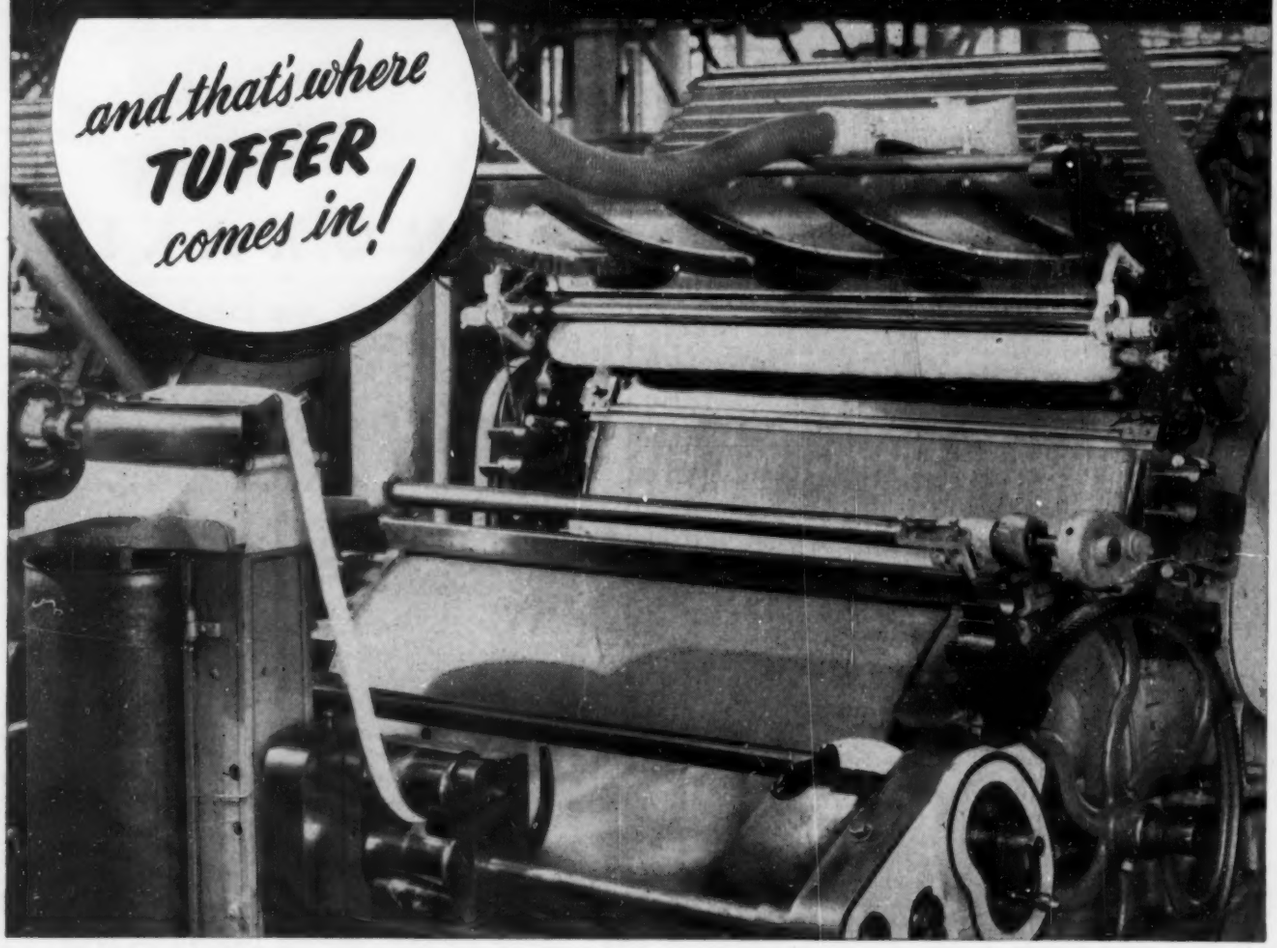

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TEXTILE EQUIPMENT NEWS

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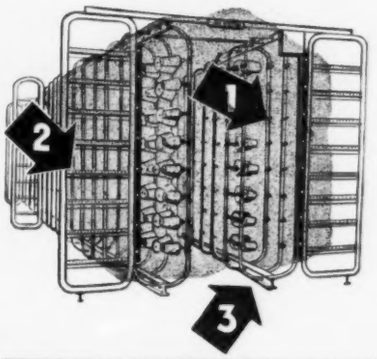
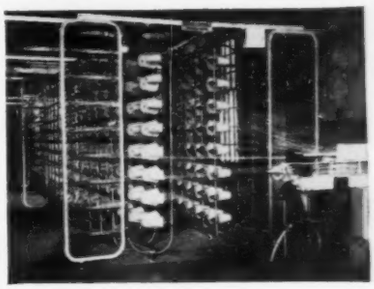
McBRIDE SRM MAGAZINE CREELS SPEED YOUR WARPING





Fast Loading – positive positioning – no snagging with McBRIDE patented swinging arms. Smooth finish, totally enclosed ball type positioning lock and completely recessed set screws eliminate all obstructions that might snag ballooning yarn.

Great Versatility – Assembly can be varied with yarn coming down either inside or outside for draw-off over end. Equipped with spindles for tubes or universal metal cone holders, this creel eliminates the necessity for wooden plugs. Double post disc type tension units with recessed hex heads provide positive adjustment without danger of marring finish with pliers or wrenches.

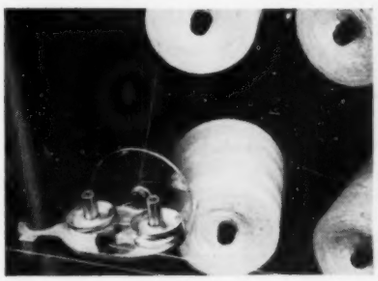
Easy Cleaning – even when fully loaded, is assured by McBRIDE monorail construction. Achieved without loss of strength or rigidity, this design gives complete access from both sides, eliminating objectionable "lint pockets."

Write today for illustrated folder describing McBRIDE Creels, Rolls and Loom Beams.

These McBRIDE features Cut Your Costs and Speed Production

1. Detail of McBRIDE adjustable, recessed hex head, double post, disc type tension units and snarl control shield.
2. Electro magnetic stop motion stops warper instantly in case of yarn break. Note totally enclosed two-way signal lights.
3. Photo showing ease of cleaning McBRIDE SRM Creels. Note how McBRIDE universal cone holders provide rigid, accurate support for cones.

1



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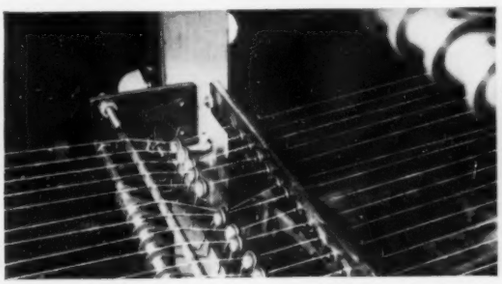

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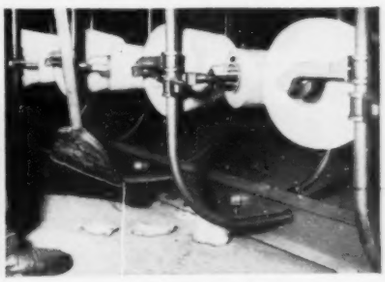


McBRIDE Announces Low Cost Heavy Duty Weaving Creels for Tire Cord Fabrics

Part of a complete line of McBRIDE heavy duty creels for weaving rugs, blankets and similar fabrics. These new Tire Cord Creels bring you extra strength and rigidity at a new low cost.

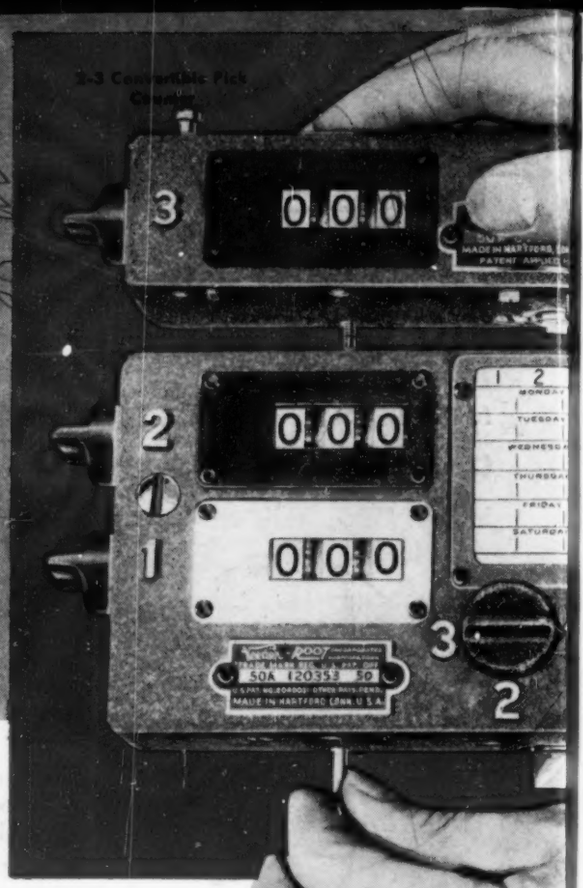
These all-metal, all-welded creels may be castor mounted to facilitate replacement of the complete set behind the loom, thus cutting down time by permitting reloading away from the loom.

Complete individualized engineering service goes with every McBRIDE product – your guarantee that the complete installation will truly fit your needs.

CREELS *for every purpose,* WARP BEAMS • FLANGES • ROLLS **Mc BRIDE**

From HANDKERCHIEFS to HOSIERY

every type of textile production is kept under



VEEDER-ROOT COUNTROL

New "Dozens" Counter for inspectors in glove and hosiery mills.

Every type of textile machine . . . from braiders and cards, to frames and looms, to knitters and warpers . . . *all* are completely controllable, *cost-wise*, when they operate under Veeder-Root *Count*rol.

Let the Veeder-Root engineer in your locality show you exactl what the newest improvements in 2-3 Convertible Pick, Hank Yardage and Knitting Counters can mean to your profit-picture And let him show you the full advantages of new Veeder-Roo Counters like the Loom Cut Meter and the new "Dozens" Counte for glove and hosiery mills. Yes, you can always count on Veede Root to help you count up new profits! Just call the neare Veeder-Root office.

VEEDER-ROOT INCORPORATE

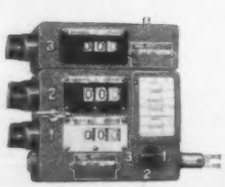
HARTFORD 2, CONNECTICUT — GREENVILLE, S. C.

"Counting House of the Textile Industry"

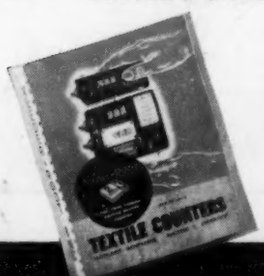
In Canada: Veeder-Root of Canada, Ltd., 955 St. James Street, Montreal 3. *In Great Britain:* Root Ltd., Kilspindie Road, Dundee, Scotland.

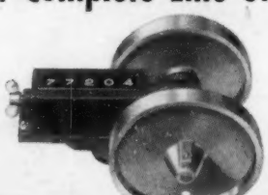
World's Most Complete Line of Textile Counters..

LOOM CUT-METERS

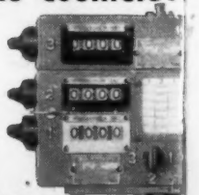


2-3 CONVERTIBLE HANK COUNTERS





LINEAR COUNTERS



2-3 CONVERTIBLE KNITTING COUNTERS

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